

AUTOMATED VEHICLES:

Consultation Paper 3 - A regulatory framework for automated vehicles

A joint consultation paper

Response on behalf of DAC Beachcroft LLP

ABOUT US

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GENERAL OBSERVATIONS

We have actively engaged in both of the Law Commission's previous consultation papers on automated vehicles (AVs). It is apparent that we agree with the Law Commission on many points of detail, and that our views previously stated have been taken into account, for which we are grateful.

The guiding philosophy of the development of automated vehicles and ADS needs to be 'safety first'. This must extend to matters relating to data protection, cyber security and legal reform.

At this stage of AV development, the most important decisions need to be made by the national government. The government's role should be that of a supervisory body. It should oversee regulations and develop and supervise national schemes of basic safety and testing standards. It is imperative the government provide guidance and support without hindering development.

It is vital that adoption of ADAS, ADS and related statutory reforms are done in a way to maximise public acceptance of these technologies. If the government fails to inspire public confidence in ADS, take up will be limited. This, in turn will adversely impact the safety benefits that these new technologies will derive, in the longer term. More disconcertingly, a failure to adhere to the 'safety first' approach could lead to incidents involving ADS that would cause the media and public to turn against the technology, setting back mass market engagement by many years.

The need to focus on both safety and public acceptance needs to be brought to the government's attention in the short term. The government's attitude towards ALKS, as demonstrated by the CCAV call for evidence, is a good example of its lack of adequate planning, consideration and engagement in the desire to be a technological world leader.

Whilst ALKS provides a tremendous opportunity for vehicle safety to move forward by potentially reducing the number of human-led accidents, it has not yet demonstrated the technological advancement required to classify it as capable of safe self-drive and should be classified as driver assist. Failure to do so could result in injuries and fatalities that turn the media and public against the technology and sets back progress. As the technology improves, and as real world data becomes available as to ALKS's strengths and weaknesses, the idea of classifying it as an automated driving system can be revisited, and consulted upon, at a later date.

The Law Commission should take this opportunity to lobby for both a longer transition period and the requirement for a MRM to be truly minimum risk.

Finally, we welcome the Law Commission's questions relating to data. There are many aspects relating to data access, protection and retention that need to be more fully addressed before AVs can be safely and successfully introduced onto the UK's road network, and we hope the Law Commission will explore these matters in greater detail in future consultations, perhaps focused solely on ADS data matters.

DEFINITION OF SELF-DRIVING

CONSULTATION QUESTION 1

2.35 We provisionally propose that:

- 1) a vehicle should not be classified as self-driving if, with the ADS engaged, the user-in-charge needs to monitor the driving environment, the vehicle or the way it drives;
- 2) it is nevertheless compatible with self-driving to require the user-in-charge to respond to a clear and timely transition demand which:
 - a) cuts out any non-driving related screen use;
 - b) provides clear visual, audio and haptic signals; and
 - c) gives sufficient time to gain situational awareness.
- 3) to be classified as self-driving, the vehicle must be safe enough even if the human user does not intervene in response to any event except a clear and timely transition demand.

Do you agree?

Yes, in respect of (1) we agree, as per section 8 of AEVA 2018 that a vehicle should not be classified as self-driving if the user-in-charge is required to monitor any aspect of the dynamic driving task while the ADS is engaged. We have reservations, however, about the government's definition of 'monitor' as indicated by the proposed monitoring test in the CCAV ALKS call for evidence, which the Law Commission helpfully sets out at paragraph 3.54.

The fourth limb of the Monitoring Test makes reference to the vehicle 'avoiding putting itself in a position where it would be the cause of a collision'.

Having regard to the fact that section 1.1 of the AEVA 2018 makes reference to the ability to 'safely' drive itself, the proposed drafting of the Monitoring Test is too loose, allowing ALKS vehicles to put themselves in a position that may risk causing a collision. The obvious example of this would be where the ALKS system limits have been reached and the driver fails to respond to a transition demand, such that the vehicle carries out a Minimum Risk Manoeuvre bringing it to stop in a live lane of motorway traffic. Such a manoeuvre risks causing a collision.

Instead, it should refer to the vehicle 'avoiding putting itself in a position where it could be the cause of a collision.'

On a more general level, if the proposed transition period is to be limited to 10 seconds, as was suggested in the ALKS call for evidence, we question the degree to which a user-in-charge can turn his or her attention from the DDT. If a user-in-charge is to be expected to evaluate the situation and retake control of a moving vehicle in 10 seconds, they needs to have been monitoring the DDT, at least to some degree, even when not responsible for the DDT.

Until the technology has improved to the point that a self-drive system is capable of driving itself without needing to resort to such a short transition demand period, it should not be classified as ADS but instead as ADAS.

In respect of (2) we agree it is compatible with self-driving to require the user-in-charge to respond to a clear and timely transition demand, subject to the criteria set out at (a) – (c). However, while (a) and (b) are unlikely to be open to interpretation, the same cannot be said for (c). We reiterate the importance of a 'safety first' approach and refer to our response to the recent ALKS call for evidence which specifically asks: '*Do you think that 10 seconds is fast enough in the foreseeable circumstances to comply with the rules on responding to enforcement vehicles?*'¹

¹ Safe Use of Automated Lane Keeping System (ALKS): Call for Evidence – Response on behalf of DAC Beachcroft LLP. See Annex below, also available at:

There are a number of potential factors that will influence the amount of time it will take for a user-in-charge to regain situational awareness having been distracted from the dynamic driving task. Whilst there is a lack of real world data (i.e. other than under artificial test conditions), an arbitrary allowance of 10 seconds is insufficient.

In a 2013 study, researchers found that resumption of manual control (in terms of steering behaviour in particular) continued to be erratic for up to 40 seconds after the transfer of control.²

If the driver is not involved in the driving process, because they are allowed to engage in secondary tasks, they will not have detailed knowledge of the current situation when an incident that requires their attention arises. Studies have made it plain that the majority of people who want automated vehicles would use the technology so that they could engage in two activities: using their mobile phones and sleeping. In either case, and especially the second, bringing drivers back into the loop so that they are able to safely resume control of the vehicle will take longer than ten seconds.

In respect of (3), we reiterate the importance of a 'safety first' approach to the development of automated vehicles, and this should extend to situations where a transition demand has been made. Unless and until there has been a clear handover to the human driver by way of 'offer' and 'acceptance', the automated vehicle cannot be considered 'safe enough' if the transition is made after a defined period of time regardless of human re-engagement or otherwise with the dynamic driving task. We refer to our response to question 1(2)(c) of the provisional consultation paper on Autonomous Vehicles in this regard.³

In the event that the user-in-charge does not intervene, the automated vehicle is only 'safe enough' if it is capable of performing a safe minimum risk manoeuvre that involves bringing the vehicle to a safe stop out of a live traffic lane. This is a point we made in response to the call for evidence in respect of ALKS, and which is endorsed by Thatcham Research and the ABI. We refer specifically to the question: '*Subject to the outcome of this call for evidence and subsequent consultation, would you have concerns about a scenario where any vehicle approved to the ALKS regulation would be automatically considered to be an automated vehicle under AEVA?*'⁴

There are further considerations regarding the adequacy of both the physical and network infrastructure before any automated vehicles can be considered 'safe enough' for use on British roads, as we highlighted in response to question 46 of the preliminary consultation on Autonomous Vehicles.⁵

<https://www.dacbeachcroft.com/media/2321016/final-ccav-call-for-evidence-alks-a-response-from-dac-beachcroft-llp-2710.pdf>

² See, e.g., N Merat et al, 'Transition to manual: Driver behaviour when resuming control from a highly automated vehicle', *Transportation Research Part F: Traffic Psychology and Behaviour*, Vol 27, Part B (2014), pp 274-282, which found that resumption of manual control (in terms of steering behaviour in particular) continued to be erratic for up to 40 seconds after the transfer of control.

³ Automated Vehicles: A joint preliminary consultation paper by the Law Commission of England & Wales and the Scottish Law Commission – Response on behalf of DAC Beachcroft LLP, Q1(2)(c) <https://www.dacbeachcroft.com/media/2321324/law-com-preliminary-consultation-on-avs-a-response-from-dac-beachcroft-llp.pdf>

⁴ Safe Use of Automated Lane Keeping System (ALKS): Call for Evidence – Response on behalf of DAC Beachcroft LLP See Annex below, also available at: <https://www.dacbeachcroft.com/media/2321016/final-ccav-call-for-evidence-alks-a-response-from-dac-beachcroft-llp-2710.pdf>

⁵ Automated Vehicles: A joint preliminary consultation paper by the Law Commission of England & Wales and the Scottish Law Commission – Response on behalf of DAC Beachcroft LLP, Q46 <https://www.dacbeachcroft.com/media/2321324/law-com-preliminary-consultation-on-avs-a-response-from-dac-beachcroft-llp.pdf>

CONSULTATION QUESTION 2

2.36 We welcome views on whether self-driving features should be designed to ensure that they can be used by people with hearing loss.

Yes. Part of the rationale for vehicle automation is to extend mobility solutions to as many people as possible. By combining visual and haptic warnings to supplement auditory ones, self-driving features should be made available for use by people with hearing loss. Specifically, haptic features will be necessary in the event that the user-in-charge is sleeping at the point of a transition demand. When the user-in-charge is awake, clear visual warnings will also help to alert them.

CONSULTATION QUESTION 3

2.65 We provisionally propose that the decision whether a vehicle is sufficiently safe to “safely drive itself” should be made by the Secretary of State, as informed by advice from a specialist regulator.

Do you agree?

The Secretary of State should make the decision whether a vehicle is sufficiently safe to ‘safely drive itself’, as is currently provided for by AEVA 2018, but we do not approve of the lack of oversight provisions contained within section 1.

At present, the Secretary of State is not required to consult or seek the advice of an advisory body before compiling the list of vehicles capable of self-driving. It now appears that the government plans on using this power to implement the UNECE ALKS regulations and define ALKS-equipped vehicles as capable of self-drive for the purposes of AEVA. Matters this important to public safety must require oversight.

Because of this, we agree with the proposal that the Secretary of State’s decision should ultimately be informed by the advice from a specialist regulator and that, should he/she wish to go against that advice, he/she should be under an obligation to publish their reasons for so dissenting, as per the requirement of the Lord Chancellor as set out under section 5 of Schedule A1 of the Civil Liability Act 2018, regarding the setting of the Discount Rate.⁶

CONSULTATION QUESTION 4

2.66 We welcome observations on which of the following standards is most appropriate when assessing the safety of automated vehicles: (a) as safe as a competent and careful human driver;

(b) as safe as a human driver who does not cause a fault accident;

(c) overall, safer than the average human driver.

Agreeing safety standards for automated vehicles necessarily involves issues of ethics and is a matter of public policy. This is a point we made in response to question 15(1) of the preliminary consultation paper.⁷

Public acceptance is vital if automated vehicles are to achieve mass market penetration and this should be a primary consideration when deciding the appropriate standard to adopt. Policy will need to take into account societal conservatism when it comes to relinquishing control of the vehicle.

⁶ Civil Liability Act 2018, Schedule A1, section 5

<https://www.legislation.gov.uk/ukpga/2018/29/contents/enacted>

⁷ Automated Vehicles: A joint preliminary consultation paper by the Law Commission of England & Wales and the Scottish Law Commission – Response on behalf of DAC Beachcroft LLP, Q15(1) <https://www.dacbeachcroft.com/media/2321324/law-com-preliminary-consultation-on-avs-a-response-from-dac-beachcroft-llp.pdf>

Automated vehicles will need to be able to demonstrate, by reference to large data sets of empirical evidence, that they are as safe as reasonably practicable. In essence they will need to be safer than the average human driver, as the average human driver accounts for the majority of accidents when the data is extrapolated. However, the risk of incident cannot be eliminated completely if AVs are designed to avoid being overly cautious and to allow traffic to flow freely.

Public acceptance is likely to dictate that automated vehicles need to be at least as safe as a competent and careful human driver, if not safer. Significantly, consumers will withdraw their consent if they perceive that automated vehicles are not 'safe enough'. The power of the media to undermine consumer confidence in automated vehicles in the wake of incidents involving serious and / or fatal injuries should not be underestimated, and parallels can be drawn with the recent vehicle emissions scandal, which significantly undermined consumer confidence in diesel engines.

It is therefore vital that empirical evidence is gathered by the proposed safety assurance agency regarding accident rates following deployment of automated vehicles, as proposed in question 15(1) of the preliminary consultation paper and endorsed by us.⁸

CONSULTATION QUESTION 5

2.67 We welcome observations on how automated vehicles can be made as safe as reasonably practicable.

We defer to other stakeholders who are better placed to comment on technical issues relating to the safe construction of vehicles. However, we wish to make the following observations:

Leveraging technology to maximise safety

We commend the 'safety first' approach that the government has thus far adopted regarding the development of automated vehicles. This is fundamentally important by virtue of the fact that an automated vehicle is, by definition, a computer on wheels and potentially a lethal weapon. To maximise safety, the technology underpinning the ADS should be used to protect human users of automated vehicles. For example, if a safety critical update has not been carried out, the vehicle should be made inoperative pending the appropriate software download or over-the-air update. This is a point we highlighted in response to question 46 of the preliminary consultation paper.

Regulating vehicle standards pre-placement

We endorse the proposal that every automated driving system should be backed by an entity (and where appropriate a licensed operator) which takes responsibility for the safety of the system and is subject to regulatory sanctions and criminal liabilities, and refer to our response to question 9 of the preliminary consultation in this regard.⁹

Regulating safety on the road

We endorse the proposal that there be a safety assurance scheme responsible for authorising automated driving systems before they are deployed for use, and monitoring safety standards thereafter. We refer to our response to question 12 of the preliminary consultation paper in this regard.¹⁰

⁸ Automated Vehicles: A joint preliminary consultation paper by the Law Commission of England & Wales and the Scottish Law Commission – Response on behalf of DAC Beachcroft LLP, Q15(1) <https://www.dacbeachcroft.com/media/2321324/law-com-preliminary-consultation-on-avs-a-response-from-dac-beachcroft-llp.pdf>

⁹ Automated Vehicles: A joint preliminary consultation paper by the Law Commission of England & Wales and the Scottish Law Commission – Response on behalf of DAC Beachcroft LLP, Q9 <https://www.dacbeachcroft.com/media/2321324/law-com-preliminary-consultation-on-avs-a-response-from-dac-beachcroft-llp.pdf>

¹⁰ Automated Vehicles: A joint preliminary consultation paper by the Law Commission of England & Wales and the Scottish Law Commission – Response on behalf of DAC Beachcroft LLP, Q12 <https://www.dacbeachcroft.com/media/2321324/law-com-preliminary-consultation-on-avs-a-response-from-dac-beachcroft-llp.pdf>

Regulatory sanctions must have 'teeth'

Having regard to their potential to endanger human life, it is important that regulatory and criminal sanctions have sufficient 'teeth' in order to regulate the behaviour of those responsible for the deployment, maintenance and use of ADSs. We refer specifically to our responses to questions 24(4), 33 and 34 – 37 in this regard.¹¹

Cyber security

Cyber security is an absolute imperative to ensuring the safe operation of automated vehicles, as highlighted in our response to question 46 of the preliminary consultation paper.¹²

Consumer education and information

The importance of consumer education cannot be underestimated in order to ensure that automated vehicles are as safe as reasonably practicable when in operation. There have been a number of well reported examples of incidents pointing to a lack of understanding and an over-reliance on ADAS systems, notably involving Tesla's 'Autopilot' system.¹³

Moreover, the recent CCAV Call for Evidence on ALKS specifically asked stakeholders how drivers should be educated and informed to understand the abilities and limitations of the system, and the roles that both manufacturers and government have to play. Whilst we maintain that ALKS should not be categorised as automated for the purpose of AEVA 2018, nevertheless our responses to these questions apply equally to Automated Driving Systems, having regard to system limitations and the safe transition of the dynamic driving task from human to machine, and vice versa. For ease of reference, we have reproduced our responses to these specific questions below:

ALKS CONSULTATION – DRIVER EDUCATION QUESTIONS

How do you think the driver should be educated and informed to understand the abilities and limitations of the system?

Studies going back to the 1970s show that skilled operators are better at taking control of automated systems than are unskilled operators. Those who have been properly trained make the minimum number of required actions allowing for faster and more seamless changeover¹⁴. From a theoretical perspective, we feel this is reason enough for adequate mandatory training in ALKS for each driver who wants to use the system.

There is a practical reason for also requiring adequate ALKS training. British insurers have published 'Defining Safe Automated Driving', a document setting out twelve key criteria for safe adoption of automated driving in the public sphere.

In addressing driver training and education, Defining Safe Automated Driving states that: 'Vehicles must ensure and validate that drivers understand the system functionality and their roles and obligations in Automated Driving before automation can start.'

¹¹ Automated Vehicles: A joint preliminary consultation paper by the Law Commission of England & Wales and the Scottish Law Commission – Response on behalf of DAC Beachcroft LLP, Q 24(4), 33 - 37 <https://www.dacbeachcroft.com/media/2321324/law-com-preliminary-consultation-on-avs-a-response-from-dac-beachcroft-llp.pdf>

¹² Automated Vehicles: A joint preliminary consultation paper by the Law Commission of England & Wales and the Scottish Law Commission – Response on behalf of DAC Beachcroft LLP, Q46 <https://www.dacbeachcroft.com/media/2321324/law-com-preliminary-consultation-on-avs-a-response-from-dac-beachcroft-llp.pdf>

¹³ <https://www.vox.com/2017/9/12/16294510/fatal-tesla-crash-self-driving-elon-musk-autopilot>

¹⁴ L Bainbridge, 'Ironies of Automation', IFAC Proceedings Volumes, 15.6 (1982), pp 129-135.

We interpret that to mean that driver education needs to include the following:

1. It needs to be compulsory. Drivers cannot activate ALKS until they have completed the training; and
2. Each driver needs to complete the training. The vehicle needs to detect if there is a new driver and will then require completion of the training. In addition, we believe the following would be beneficial to safe use of ALKS:
 - Training should be in the ALKS-equipped vehicle, via the infotainment system, with the vehicle's sensors checking to make sure the driver is engaged with the training session;
 - To ensure that drivers are kept up-to-date with changes to the ALKS systems as they are improved, ALKS-equipped cars should require refresher training courses. These do not need to be as comprehensive as the original training session;
 - Just as the DVLA recently incorporated use of satnav in the driving test, we believe that it would be beneficial to include ALKS in the driving test in the next few years.

What role do you think manufacturers selling this system should play in providing this education and information?

What role do you think government and its agencies should play in providing this education and information?

Manufacturers, Government and insurers need to work together closely to ensure that the training and education that drivers receive is clear, adequate and maximises the likelihood that all drivers who choose to use ALKS will do so safely. For this reason, we have answered these two questions together.

Manufacturers' primary role will be to develop the necessary training element, provide it via the vehicle's infotainment system, and ensure that all drivers complete the compulsory training before they can engage the ALKS system.

'Defining Safe Automated Driving' states: 'The [training] system must be inherently simple and intuitive to understand that the need for training is minimised.' Manufacturers will need to bear this in mind when they develop their training systems.

Government's role will be to set mandatory training standards, oversee compliance and regulate for failure to comply. It will need to ensure that all training is compulsory for all drivers.

We strongly urge government to consider updating the driving test to incorporate ALKS as a component. Insurers need to set out in greater detail their requirements for training standards so that manufacturers and government know what will satisfy insurers' requirements and guarantee ALKS-equipped vehicles are insurable, preferably at reduced risk and lower premiums when compared to non-ALKS-equipped vehicles.

Infrastructure

We highlighted the importance of both physical and network infrastructure within our response to the preliminary consultation, and refer to our response to question 46 in this regard. In order to ensure automated vehicles are as safe as possible, secure and reliable connectivity is a prerequisite - both vehicle to vehicle and vehicle to infrastructure.

CONSULTATION QUESTION 6

2.68 We welcome practical suggestions for how AV regulators can fulfil their public sector equality duty.

It is fundamentally important that automated vehicles promote mobility for all, and do not discriminate. We refer to our response to question 25 of the second consultation paper on Highly Automated Road Passenger Services (HARPS) in which we endorsed the proposal that the protections against discrimination and duties to make reasonable adjustments that apply to land transport service providers under section 29 of the Equality Act 2010 should be extended to operators of HARPS.¹⁵

In addition to adaptations for physically impaired persons, as per our response to question 2 above, haptic and visual features should be mandated for those with hearing loss, as well as haptic and auditory features for the blind and partially sighted. In addition, in the event that facial recognition software is used to deliver the service, regulations must safeguard against the risk of discrimination against ethnic minorities, people with physical disabilities and the elderly.

Penalties for violation should be clear and unequivocal.

¹⁵ Automated Vehicles: Consultation Paper 2 on Passenger Services and Public Transport – Response on behalf of DAC Beachcroft LLP, Q25
<https://www.dacbeachcroft.com/media/2321325/law-com-second-consultation-on-avs-passenger-services-and-public-transport-a-response-from-dac-beachcroft-llp.pdf>

SAFETY ASSURANCE BEFORE DEPLOYMENT

CONSULTATION QUESTION 7

3.11 We provisionally propose that:

- 1) safety assessment should use a variety of techniques;**
- 2) manufacturers/developers should submit a safety case to regulators showing why they believe that the automated driving system is safe;**
- 3) regulators should:**
 - a) provide guidelines for what is in the safety case;**
 - b) audit the safety case;**
 - c) prepare guidance for manufacturers and developers on preferred standards; and**
 - d) carry out at least some independent tests.**

Do you agree?

(1) We agree that safety assessment should use a variety of techniques. As the consultation states, assessment methods for AV safety are still developing. It is also obvious that AV technology, in general, is still in its early stages. As the technology changes and diversifies, we will acquire greater knowledge of what safety assessments work best. For these reasons, we also believe that assessment methods should be regularly reviewed and updated.

KPMG's 2019 Autonomous Vehicle Readiness Index noted, in particular for the UK, that: 'Improving consumer acceptance will be critical for the deployment of AVs. To achieve this, government and industry have a role to play in communicating the benefits of AVs and the efforts being taken to ensure their safety.'¹⁶ One of the best ways of doing this is to publish a wide array of safety assessments. The more confident people feel in the evidence that AVs are safe, the more likely they are to accept them on the roads.

(2) & (3) We agree with these recommendations. Establishing a thorough and transparent safety assessment system before AVs are widespread will help ensure that any and all teething problems are caught early, allowing for a smoother integration into the UK's road network and quicker acceptance by the public of AVs' safety benefits.

While we understand the government's desire to be a global leader in ADS, such a position must not come at the expense of adequate safety precautions.

CONSULTATION QUESTION 8

3.12 We seek views on whether an approval authority that intends to use a scenario database as part of the testing procedure should consult road user groups on the range of scenarios to be included.

We endorse consulting a wide array of stakeholders, especially road user groups and technical specialists such as Thatcham Research.

¹⁶ KPMG, 2019 Autonomous Vehicle Readiness Index, p 20.
DAC Beachcroft Response - Automated Vehicles: Consultation Paper 3

CONSULTATION QUESTION 9

3.17 We provisionally propose that:

- 1) unauthorised automated driving systems should be prohibited; and**
- 2) this should be subject to an exemption procedure by which the Secretary of State may authorise unauthorised systems to be used in tests and trials.**

Do you agree?

(1) We agree that unauthorised automated driving systems should be prohibited. Additionally, it should be a criminal offence to use an unauthorised automated driving system on roads or other public places. In the interests of public safety, we would suggest that the existence of an unauthorised or improperly modified ADS should render the vehicle's ADS unusable until it is made compliant and reinspected.

(2) Automated driving systems should undergo rigorous testing to ensure that they are as safe as possible before they are authorised to be used on roads or other public places. An approval regime based on both self-certification and third-party testing should be able to evolve to ensure the safety of new automated driving systems as far as reasonably possible. The two can and should work together harmoniously and should improve consumer confidence and safety.

For testing to be as thorough as possible, it is vital that the Secretary of State have the ability to authorise systems only for use in tests and trials.

CONSULTATION QUESTION 10

3.22 We provisionally propose that:

- 1) the Government should establish a domestic scheme to approve automated driving systems (ADSs) for use on roads in Great Britain (a "national ADS approval scheme");**
- 2) manufacturers should have a free choice to apply for approval under either the UNECE system of international type approvals or through the national scheme;**
- 3) developers should be able to submit an ADS for national approval, even if they are not responsible for manufacturing the whole vehicle.**

Do you agree?

(1) We agree. At this stage of AV development, the most important decisions need to be made by the national government. The government's role should be that of a supervisory body. It should oversee regulations and develop and supervise national schemes of basic safety and testing standards. It is imperative the government provide guidance and support without hindering development.

Parliament was well aware of this when passing the Automated and Electric Vehicles Act 2018. During the second reading, John Hayes MP, then Minister of State (Department for Transport), said: *'The job that the Government are doing is to legislate sufficiently so that change, innovation, and research and development are not inhibited, but not to the point where we dictate, or try to dictate, what the future might look like in this regard.'*¹⁷ The same philosophy needs to be maintained here.

Developing an adequate safety framework will become especially important once MaaS incorporates autonomous vehicles. There are, at present, reasonably robust safety standards in place for the sorts of vehicles that are currently operational in public places. Once autonomous vehicles enter the public sphere, however, the current standards will be inadequate for the purposes of guaranteeing the safety of passengers, vulnerable road users and operators and passengers of other vehicles. If MaaS is going to successfully incorporate AVs, especially level 5 HARPS, the national government will need to develop safety standards that not only protect all road users but inspire confidence in the safety of AVs.

(2) We agree. It seems reasonable to allow UNECE type approval for driver assistance systems, provided that it is not used as a means of approving of ADS. We note that the consultation calls for both UIC and NUIC equipped vehicles to require a second step that involves UK-specific categorisation, and we approve of this. This will ensure that AVs must recognise UK-specific road features.

(3) We agree, though we caution against developers using this as a potential means of avoiding liability for product defects – see our responses to question 54 below for our views on the need to update product liability laws.

CONSULTATION QUESTION 11

3.23 We provisionally propose that:

- 1) **an ADS approval scheme should be established through regulation under the Road Traffic Act 1988, without further legislative reform;**
- 2) **an ADS should be defined as a combination of software, hardware and sensors, which can be installed in a “type” of vehicle;**
- 3) **when an ADS is approved, the approval should be accompanied by specifications for:**
 - a) **the type of vehicle in which it can be installed; and**
 - b) **how the ADS is installed within the vehicle;**
- 4) **where an ADS is installed in a pre-registered vehicle, an example vehicle should be submitted to the regulator for approval of the installation.**

Do you agree?

(1) We agree, though we add that any regulations arising from the RTA must contain adequate measures of ensuring oversight.

¹⁷ <https://hansard.parliament.uk/commons/2017-10-23/debates/BDAB60DC-D67C-44CF-B0CB-9FBE8DAE3F30/AutomatedAndElectricVehiclesBill>

To give an example of why it is necessary to highlight this, under section 1 of AEVA the Secretary of State is not required to consult or seek the advice of an advisory body before compiling the list of vehicles capable of self-driving. It now appears that the government plans on using this power to implement the UNECE ALKS regulations and to define ALKS-equipped vehicles as capable of self-drive for the purposes of AEVA. Matters this important to public safety must require oversight.

(2) We agree.

(3) and (4) We have real concerns about allowing ADS as an aftermarket product. For ADS to work as safely as possible, an ADS system needs to be designed for a particular vehicle. Fitting an ADS after the vehicle has been built increases the risk of the ADS performing inadequately, thereby increasing the risk of ADS technology causing or contributing to an incident.

In our conversation with insurers, we have also been informed that aftermarket ADS would likely change risk profiles and could affect premiums for automated vehicles.

CONSULTATION QUESTION 12

18.12 We invite observations on the appeal process in regulation 19 of the Road Vehicles (Approval) Regulations 2020, including:

1) how it works in practice; and

2) how well it is suited to the proposed national ADS approval scheme.

(1) We have no observations in respect of how the appeal process in Regulation 19 of the Road Vehicles (Approval) Regulations 2020 works in practice.

(2) We are against the appeal process in general. As we understand the process based on our work with the ABI and Thatcham, the process of type approval is an ongoing dialogue between vehicle manufacturers and approvers. This allows for regular communication and an approval process based largely on collaboration. Because of this, we argue that the appeal process is moot.

There will be occasions, however, where manufacturers have not engaged with approvers in this way, and type approval will not be granted. When this occurs, manufacturers should use the approver's feedback, make the necessary improvements, and return after those improvements have been made.

CONSULTATION QUESTION 13

3.35 We provisionally propose that:

- 1) once an ADS has received type approval at either international or domestic level, an Automated Driving System Entity (ADSE) would need to submit the vehicle to the UK safety regulator for categorisation as able to safely drive itself;
- 2) the safety regulator should make a recommendation to the Secretary of State for how the vehicle should be classified;
- 3) it should be open to the safety regulator to recommend that an ADS-enabled vehicle is classified in one of three ways: as not self-driving but driver assistance; as self-driving only with a user-in-charge; or as self-driving without a user-in-charge;
- 4) the safety regulator should only recommend classification as self-driving (either with or without a user-in-charge) if it is satisfied that:
 - a) an ADSE is registered as taking responsibility for the system;
 - b) the ADSE was closely involved in assessing safety and creating the safety case; and
 - c) the ADSE has sufficient funds accessible to the regulator to respond to improvement notices, to pay fines and to organise a recall.

Do you agree?

(1) We agree. Given the uniqueness of the UK road network, it is vital that all self-drive type approvals be domestic.

(2) We agree, and if the Secretary of State goes against that recommendation, they must be required to present reasons for doing so.

(3) Manufacturers should apply for one of the three classifications for a vehicle type, and the regulator should either grant or refuse that classification. An ADS-equipped vehicle that does not meet the regulator's requirements for self-driving (with or without a user-in-charge) should not be able by default to be classified as providing driver assistance. Substandard automation is not necessarily the same as competent assisted technology, which should require separate type approval.

(4) We agree.

CONSULTATION QUESTION 14

3.36 We provisionally propose that a new legislative framework should provide regulation-making powers to specify:

- a) who should assess whether a vehicle is capable of self-driving;
- b) the procedure for doing so; and
- c) criteria for doing so.

Do you agree?

We agree that whilst the AEVA 2018 is a good foundation for self-driving vehicles, it lacks the detail necessary for regulation-making purposes. For this reason, we agree that a new legislative framework should provide regulation making powers to specify the points raised above.

We add that because of the importance of stakeholder involvement in this area, the government needs to be required to engage in extensive public consultation throughout the process of developing both the legislative framework and regulations. The establishment of an advisory committee would further improve assessment of self-drive vehicles.

CONSULTATION QUESTION 15

18.15 We seek views on whether the new legislation should include provisions for appeals against a categorisation decision. If so, should these be similar to those in regulation 19 of the Road Vehicles (Approval) Regulations 2020?

For the reasons set out in our answer to question 12 above, we do not feel that there should be an appeals process for categorisation decisions. In short, a manufacturer who fails to get sought-after categorisation should make the changes suggested in the feedback and resubmit the vehicle.

CONSULTATION QUESTION 16

3.41 We seek views on whether the regulator that classifies vehicles as self-driving should have power to allow their deployment in limited numbers, so as to gather further data on their safety in real world conditions.

We agree that the regulator should have the power to allow deployment in limited numbers. Real world testing in limited numbers is the one of the best ways to test safety and ensure the successful integration of automated vehicles onto the road network.

In cases of limited deployment, there needs to be agreement between the manufacturers and the regulator that the manufacturer will be responsible for safety during the limited deployment. The manufacturers and regulator will need to determine the appropriate means of achieving that, probably on a case by case basis.

CONSULTATION QUESTION 17

We provisionally propose that legislation should establish a scheme to assure the safety of automated driving systems following deployment, giving scheme regulators enhanced responsibilities and powers. Do you agree?

We consider that the challenges of ensuring post deployment safety of automated vehicles will require an enhanced statutory scheme. Safety assurances will be required on an ongoing basis, for example, as software is updated which may change the functionality of the vehicle.

The “enhanced powers to assure safety” set out in question 18 below may not be acceptable to manufacturers or consumers / vehicle owners, especially if they involve issues of data ownership and control or restricts the driveability or utility of the vehicle. It also appears that the Commission is looking to enhance regulatory powers in relation to functionality, efficacy and compliance, not just safety. We would also note that any such enhanced responsibilities and powers must align, and not conflict, with other applicable regulators’ powers and responsibilities for example the Information Commissioner’s Office (ICO) which is responsible for regulating use of personal data.

CONSULTATION QUESTION 18

We provisionally propose that the enhanced scheme should give regulators the following responsibilities and powers:

- 1) scheme regulators should be responsible for comparing the safety of automated and conventional vehicles using a range of measures;**
- 2) to do this the regulator should have power to collect information on:**
 - a) leading measures (instances of bad driving which could have led to harm) and**
 - b) lagging measures (outcomes which led to actual harm);**
- 3) regulators should have power to require an ADSE:**
 - a) to update software where an update is needed to ensure safety and continued compliance with the law;**
 - b) to keep maps up-to-date, where an AV relies on maps to ensure safety and compliance with the law;**
 - c) to communicate information about an ADS to users in a clear and effective way, including where necessary through training.**

Do you agree?

We agree that regulators will require additional responsibilities for comparing the safety of conventional and automated vehicles and should have power to collect information on lagging measures which provide the most accurate reflections of safety and leading measures which can act as warnings.

We stand by our previous suggestion – that the ADS is rendered unusable if the owner refuses to comply after a reasonable number of warnings or period of time. The number of times and the amount of time that a user is allowed to continue using ADS before accepting safety critical updates or experience a shutdown of ADS is a policy decision, and so something upon which we do not feel capable of commenting.

This would be more in line with the thinking set out at 5.1.9 of the UNECE ALKS regulations:

- *When the system can no longer meet the requirements of this Regulation, it shall not be possible to activate the system.*
- *The manufacturer shall declare and implement a process to manage the safety and continued compliance of the ALKS system over lifetime.*

Any proposal will need to be clear where the ADSE's responsibilities end and the vehicle operator's begin. If, however, no aspects of control remain in the hands of the vehicle operator, it is right that the ADSE should be fully accountable for all aspects of safety, functionality and regulatory compliance.

CONSULTATION QUESTION 19

4.24 We welcome views on the following issues:

- 1) Should scheme regulators be empowered to approve software updates that apply only within the UK, without requiring the manufacturer to return to the original type approval authority?**
- 2) Should the scheme should also deal with cybersecurity?**
- 3) Are other powers needed? (Note that data is discussed in Chapter 17.)**

As per our responses to the previous Law Commission consultation papers, we are of the view that a safety assurance scheme should address and deal with cybersecurity to ensure that an ADS can be prevented from falling prey to hacking, malware and the risk of data theft. As we have flagged in our previous responses, failure to do so would have a devastating impact on gaining the public's trust and support.

ASSURING SAFETY IN USE

CONSULTATION QUESTION 20

4.30 Should the authority administering the scheme to assure safety while automated vehicles are in use be kept separate from type approval authorities (as is already the case)? Alternatively, should both functions be combined in a single body?

We see merit in having a single body that is responsible for all aspects of safety pre and post deployment. We refer specifically to our response to question 12 of the preliminary consultation response in this regard, which we have reproduced below for ease of reference:

PRELIMINARY CONSULTATION – QUESTION 12

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?

Automated driving systems should undergo rigorous testing to ensure that they are as safe as possible before they are authorised to be used on roads or other public places. This should apply both when the ADS comes equipped on the vehicle and when it is an aftermarket product. An approval regime based on both self-certification and third-party testing should be able to evolve to ensure the safety of new automated driving systems as far as reasonably possible. The two can and should work together harmoniously and should improve consumer confidence and safety.

Though cyber security is not part of this consultation, we feel it is important to stress that a safety assurance scheme will be important in addressing issues around cyber security and preventing ADS from falling prey to hacking and malware. Any scheme that arises from this consultation should be the basis for cyber as well.

A single organisation tasked with safety-related aspects of automated driving systems would ensure clear lines of responsibility and set clear standards that need to be met by the vehicle; the automated driving system; driver training; and marketing materials.

Providing consumers with the necessary information to develop and maintain awareness of their responsibilities when using an automated driving system is a significant factor in road safety and it seems sensible to include this within the remit of the new safety assurance agency.

CONSULTATION QUESTION 21

4.31 What formal mechanisms could be used to ensure that the regulator administering the scheme is open to external views (such as duties to consult or an advisory committee)?

We refer to our response to question 14 above regarding a new legislative framework providing for regulation-making powers in the context of self-driving vehicles. This could easily include a statutory duty on the part of the regulator to consult with an advisory committee made up of suitably qualified experts.

CONSULTATION QUESTION 22

4.38 We provisionally propose that a statutory scheme to assure AVs in-use should:

- 1) investigate safety-related traffic infractions (such as exceeding the speed limit; running red lights; or careless or dangerous driving);**
- 2) investigate other traffic infractions, including those subject to penalty charge notices;**
- 3) if fault lies with the ADSE, apply a flexible range of regulatory sanctions.**

Do you agree?

Yes, we agree that a statutory scheme to assure AVs in-use should be responsible for investigating all traffic incidents and, where appropriate, applying a range of regulatory sanctions.

ADSEs (and where appropriate licensed operators) should be subject to the same level of fines as drivers of conventional vehicles. In addition, consideration should be given to additional penalties for repeat offences, for failing to address underlying causes, including regulatory and criminal sanctions. We refer to our responses to question 24(3) and 24(4) of the preliminary consultation paper in this regard.¹⁸

In order for the statutory scheme to work effectively, it will be a prerequisite for automated vehicle sensors to record all incidents. It has been suggested that ALKS vehicles will not be required to stop unless a collision is of sufficient force to cause the airbag to deploy. Such a high threshold for recording incident data is wholly insufficient and may result in collisions with pedestrians and other vulnerable road users going unrecorded when there is a statutory obligation on drivers of conventional vehicles to report such accidents involving injury.

CONSULTATION QUESTION 23

4.42 We provisionally propose that the regulator which assures the safety of AVs in-use should have powers to impose the following sanctions on ADSEs:

- 1) informal and formal warnings;**
- 2) fines;**
- 3) redress orders;**
- 4) compliance orders;**
- 5) suspension of authorisation;**
- 6) withdrawal of authorisation; and**
- 7) recommendation of attendance at a restorative conference.**

Do you agree?

Yes, we agree that the regulator which assures the safety of AVs in-use should have the power to impose a broad range of sanctions on ADSEs (and where applicable licensed operators),

¹⁸ Automated Vehicles: A joint preliminary consultation paper by the Law Commission of England & Wales and the Scottish Law Commission – Response on behalf of DAC Beachcroft LLP, Q24(3) and (4) <https://www.dacbeachcroft.com/media/2321324/law-com-preliminary-consultation-on-avs-a-response-from-dac-beachcroft-llp.pdf>

depending on the nature and severity of the infraction. We refer to our responses to questions 24(3) and 24(4) of the preliminary consultation in this regard.¹⁹

Whilst we approve of giving regulators a wide variety of sanctions, it is our hope that ADSEs and the regulator work together collaboratively. They should, after all, share the common goal of maximising safety on the UK's road network.

CONSULTATION QUESTION 24

4.43 We provisionally propose that the legislation should provide the regulator with discretion over:

- 1) the amount of any monetary penalty; and**
- 2) the steps which should be taken to prevent re-occurrence of a breach.**

Do you agree?

Yes, the regulator should be provided with discretion regarding the amount of any monetary penalty subject to a minimum threshold, and should be given a broad range of options at its disposal to ensure remedial action and prevent re-occurrence of a breach, including criminal sanctions. Where applicable, these powers should be capable of being exercised against licensed operators also.

Ultimately, the regulator needs to be able to show its 'teeth', as we alluded to in response to question 24(4) of the preliminary consultation paper²⁰, much like the Information Commissioners Office has the ability to impose a very broad range of fines in respect of breaches of the GDPR. Such powers will serve to regulate behaviours, whilst at the same time ensuring proportionate and constructive remedial action.

CONSULTATION QUESTION 25

4.48 We provisionally propose that a specialist collision investigation unit should be established:

- 1) to analyse data on collisions involving automated vehicles;**
- 2) to investigate the most serious, complex or high-profile collisions; and**
- 3) to make recommendations to improve safety without allocating blame.**

Do you agree?

Yes. We refer specifically to our response to question 14 of the preliminary consultation paper in this regard, which we have reproduced below for ease of reference:

¹⁹ Automated Vehicles: A joint preliminary consultation paper by the Law Commission of England & Wales and the Scottish Law Commission – Response on behalf of DAC Beachcroft LLP, Q46 <https://www.dacbeachcroft.com/media/2321324/law-com-preliminary-consultation-on-avs-a-response-from-dac-beachcroft-llp.pdf>

²⁰ Automated Vehicles: A joint preliminary consultation paper by the Law Commission of England & Wales and the Scottish Law Commission – Response on behalf of DAC Beachcroft LLP, Q24(4) <https://www.dacbeachcroft.com/media/2321324/law-com-preliminary-consultation-on-avs-a-response-from-dac-beachcroft-llp.pdf>

PRELIMINARY CONSULTATION – QUESTION 14

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

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.

The root causes of road traffic accident are well known, and many police forces have built up considerable expertise in the investigation of accidents. On the other hand, there has long been a case for high-profile motor accidents to be investigated via an Accident Investigation Branch, and the introduction of autonomous vehicles provides a welcome opportunity to take this forward. This may prove essential, at least during the lengthy introduction of automated vehicles onto public roads because even expert police forces will have little to no knowledge of how to analyse relevant data acquired from AVs involved in accidents.

This would be driven by the need to establish cause and to produce recommendations to prevent similar accidents in future, which is the way other accident investigation authorities operate, rather than to establish blame and/or lay criminal charges, which would naturally tend to be the focus of police investigations. We note that for any investigation to be truly effective, vehicle manufacturers or ADSE needs to release all relevant data.

CONSULTATION QUESTION 26

4.53 We provisionally propose that the UK Government should establish a forum for collaboration on the application of road rules to self-driving vehicles.

Do you agree?

Yes. We concur that collaboration among a range of stakeholders (to include developers and regulators) is vital to promote both safety and practicability in the application of road rules to self-driving vehicles.

There is a need for consistency of approach among developers of ADSs having regard to scenario based algorithms. This fundamental to the safety of automated vehicles and must not be open to interpretation.

As automated vehicle development is still very much in its infancy, a fluid attitude should be adopted that is able to be adapted a bank of 'real world' use cases / evidence builds in the first few years post-deployment.

CONSULTATION QUESTION 27

4.54 We welcome views on:

- 1) the issues the forum should consider;**
- 2) the composition of the forum; and**
- 3) its processes for public engagement.**

As aforesaid in response to question 26 above, a flexible attitude should be adopted so that the forum is able to consider whatever issues are identified by 'real world' use of these technologies.

The forum will need to consider those elements of the technology that will be proprietary and therefore commercially confidential and those aspects such as application of road rules that need to be common property and agreed. This will be especially important in cases where ADSEs stop supporting ADS updates, either because of the age of the system or the ADSE becomes insolvent, and vehicle users will need continued updates and support to keep their ADSs safe and useable. These elements will need to be common property.

The forum should be composed from a diverse range of stakeholders, to include (but not necessarily limited to) developers, regulators, vehicle manufacturers, insurers, law enforcement and road safety organisations.

In respect of processes for public engagement, these should be open and transparent.

RESPONSIBILITIES OF THE USER-IN-CHARGE

CONSULTATION QUESTION 28

5.5 We provisionally propose that that the user-in-charge:

- 1) should be defined as an individual in a position to operate the controls of a vehicle while an ADS is engaged and who is either in the vehicle or in direct sight of the vehicle; and
- 2) is not a driver while the ADS is engaged, and would not be liable for any criminal offence or civil penalty (such as a parking ticket) which arises out of dynamic driving.

Do you agree?

(1) This definition may be outdated before the Law Commission's report is sent to Parliament. The forthcoming Mercedes Benz S Class will have the ability to park itself without the driver/user-in-charge being in direct sight of the vehicle provided that it is parking in a location with the required infrastructure.²¹ If the driver/user-in-charge is no longer in direct sight of the parking vehicle, will that person cease to be responsible for the vehicle? Will the car park or infrastructure operator become the user-in-charge?

In general, the user-in-charge should be in the vehicle or in direct sight of the vehicle, but the definition needs to account for those inevitable eventualities that will arise when neither is the case; these will increase as the technology improves.

Regardless of how 'user-in-charge' is to be defined, they must remain qualified and fit to drive. This is vital given the potential for a user-in-charge to switch to a driver and vice versa during the course of a single journey, either as minimal risk conditions are met, or the driver chooses to hand over control.

(2) We agree that the user-in-charge should not be a driver for the purposes of civil and criminal law while the ADS is engaged. It is essential that the user-in-charge cannot be held accountable in respect of civil or criminal liabilities arising out of the dynamic driving task while the ADS is engaged.

First and foremost, it would be wrong for the user-in-charge to be held accountable where s/he is not in control of the vehicle. Other than when the UIC is in control of the dynamic driving task (in which case they assume the status of a driver), we strongly oppose the suggestion that a UIC be exposed to criminal liabilities in relation to the dynamic driving task while the ADS is deployed.

One of the primary aims of automated driving is to negate the need for a human to monitor the dynamic driving task, thus allowing them to engage in other activity. A user-in-charge is not required to monitor the dynamic driving task while the ADS is deployed and, aside from the fact that it would be manifestly unfair, it would cause confusion if they were to be potentially liable where they happen to be subjectively aware of a risk of serious injury. Not only does this risk undermining public trust and confidence in automated vehicles generally, but there is also the risk of the unintended consequences of a disengaged user-in-charge who tries to intervene in an

²¹ This demonstrates the importance of providing adequate infrastructure for ADS, a point we have made previously. See our responses in Automated Vehicles: A joint preliminary consultation paper by the Law Commission of England & Wales and the Scottish Law Commission – Response on behalf of DAC Beachcroft LLP, Qs 15, 17, 41 and 45 <https://www.dacbeachcroft.com/media/2321324/law-com-preliminary-consultation-on-avs-a-response-from-dac-beachcroft-llp.pdf>

emergency situation in an attempt to avoid any civil or criminal culpability, resulting in a worse outcome.

In view of the varying amount of time it takes for an 'out of loop' human driver to re-engage safely with the dynamic driving task, in the interest of safety a user-in-charge should not be expected to intervene without a clear and unequivocal handover, based on 'offer and confirmation'. ADSs that are authorised for use should be capable of reacting appropriately in an emergency situation. The requirement that an ALKS-equipped vehicle stop in lane during a MRM is not an appropriate or safe reaction to an emergency situation and is further proof that ALKS is not ADS.

It would also undermine one of the rationales for automated driving, which is to enable the user-in-charge to engage in other activities during road travel, as users-in-charge would feel obligated to monitor the dynamic driving task when the ADS is engaged for fear of incurring a civil or criminal liability. It follows that it would also risk undermining consumer appetite for ADS, as well as undermining public trust and confidence.

We add that there will be several types of situations where users-in-charge may try to avoid criminal liability by improperly relying on ADS. For example:

- The user-in-charge has modified the ADS so that it continues to operate outside safe parameters (such as in inclement weather or on roads not suited to self-drive)
- The user-in-charge falsely attempts to rely upon ADS for an incident that occurred when the vehicle was being driven by the user-in-charge

This cannot be allowed.

CONSULTATION QUESTION 29

5.9 We provisionally propose that following the end of the transition demand period:

- 1) the user-in-charge should re-acquire the legal obligations of a driver, whether or not they have taken control of the vehicle; and**
- 2) if, following a failure to respond to a transition demand, the vehicle stops in a manner which constitutes a criminal offence, the user-in-charge should be considered a driver and should therefore be liable for that offence.**

Do you agree?

(1) We agree. There must be clarity about when the transition demand ends and the user-in-charge re-acquires the legal obligations of a driver. It is important to avoid any confusion regarding the point at which liability transfers from ADS to driver.

This highlights the need to make clear to consumers the distinction between a driver and a user-in-charge, both to ensure road safety and to promote trust and confidence in ADS. The process of hand over from machine to human must be clear and unequivocal.

Clarity of handover between human and machine is fundamentally important to promote consumer confidence in automated vehicles. Any blurring of the lines risks causing confusion and eroding trust.

(2) We urge the Law Commission to lobby for a longer transition demand period than that proposed by DfT in its ALKS call for evidence (10 seconds), which we believe, based on evidence²², is wholly inadequate for a disengaged user-in-charge to resume engagement and re-acquire legal obligations.

Whilst we agree that the user-in-charge should be liable for the criminal offence of allowing the vehicle to stop on the road, we believe that until ADS can safely engage in lateral manoeuvres that remove the vehicle from the flow of traffic, such vehicles should not be considered automated, but instead be classified as possessing driver assist technologies.

The DfT has proposed that an ALKS equipped vehicle simply come to a controlled stop within a live traffic lane where a driver fails to respond to a transition request. Such a manoeuvre risks causing a collision, as well as traffic chaos, and is fundamentally unsafe. Users-in-charge responsible for resulting accidents should be criminally liable, but that would bring little comfort to victims and their loved ones. It would be better to reduce the likelihood even more by requiring continued driver supervision until the technology is capable of safe automated lateral emergency manoeuvres. A longer transition period would also improve the safety aspect, as it would give users-in-charge a better opportunity to more fully re-engage with the driving environment and would reduce the chances that those drivers would act inappropriately and potentially increase overall harm.

The Law Commission should take this opportunity to lobby for both a longer transition period and the requirement for a MRM to be truly minimum risk, not the only available alternative however unsatisfactory from a driving standards perspective.

CONSULTATION QUESTION 30

5.14 We seek views on whether a person with a provisional licence should be allowed to act as a user-in-charge, if accompanied by an approved driving instructor in a vehicle with dual controls.

We accept that a person with a provisional licence should be allowed to act as a user-in-charge if accompanied by an approved driving instructor in a vehicle with dual controls. We would go further and urge the government to make ADS training and testing mandatory for those provisional licence holders who intend to use an ADS-equipped vehicle; just as those drivers who plan on driving a car with a manual gearbox must be trained and pass a test before they can do so.

It is vital that young drivers be exposed to ADS from an early stage, as this will give them the necessary experience and confidence to use the technology once they have full licences.

It is equally important that the approved driving instructors responsible for training young drivers receive special training relating to ADS. If we are exposing inexperienced drivers to ADS, it needs to be in an environment where the least possible harm can be caused, and for this to be the case, those training them need to be comfortable with and knowledgeable about self-drive technology and operation.

²² See, e.g., N Merat et al, 'Transition to manual: Driver behaviour when resuming control from a highly automated vehicle', *Transportation Research Part F: Traffic Psychology and Behaviour*, Vol 27, Part B (2014), pp 274-282, which found that resumption of manual control (in terms of steering behaviour in particular) continued to be erratic for up to 40 seconds after the transfer of control.

CONSULTATION QUESTION 31

5.17 We provisionally propose that legislation should create new offences of:

- 1) using an automated vehicle as an unfit or unqualified user-in-charge; and**
- 2) causing or permitting the use of an automated vehicle by an unfit or unqualified user-in-charge.**

Do you agree?

(1) We agree that users-in-charge need to be fit and qualified to be in command of automated vehicles, and that there should be offences in place for those who violate these requirements.

(2) Causing – We agree that those who cause an unfit or unqualified user-in-charge to use an automated vehicle should be culpable, with the appropriate defences.

Permitting – We feel that it is important that the law related to AVs be drafted in a way that maximises the possible safety benefits of the technology without risking turning the public against it. Because of that, we urge that expanding “permitting” offences be limited to those who assist users-in-charge to reduce the safety of these devices, such as mechanics and computer programmers, and not be extended to passengers.

Use of permitting offences would be a good means of extending criminal liability to those who assist users-in-charge to modify AVs in some way that allows the bypassing of rules or regulations, such as eliminating a speed limiter or causing ADS to be able to be turned on outside its permitted area.

In general, we do not agree that those passengers who permit use by unfit or unqualified users-in-charge should be culpable. We accept finding culpability for permitting individuals to use an uninsured vehicle, though we believe this can be avoided by required deactivation of ADS on an uninsured car (see our response to question 35 below).

At 12.51, the consultation refers to a passenger being criminally liable for allowing a user-in-charge’s actions if that user showed signs of inebriation. This does not happen at present, and it would be unwise to extend the law in this way.

Firstly, the extension of permitting offences in this way places a new and unwelcome burden on passengers: they would have to be more aware of the user’s state. Judging drunkenness is possibly the easiest scenario (though a user can be over the legal limit without displaying obvious signs of inebriation), but we should not expect passengers to judge the fitness of the user for the purposes of criminal liability. We do not require this at present, and we should not moving forward.

It will be especially difficult because so many members of the public will not understand the fitness requirements for a user-in-charge. Public perception of AVs is that human input will not be necessary. Thatcham Research has found that the two most popular activities people look forward to once they have access to AVs is using their mobile phones and sleeping. Clearly, without a concerted public education campaign, average members of the public will not know what is expected of users-in-charge.

Secondly, expanding permit offences in this way runs the risk of reducing public appetite for automated vehicles. To provide one example: 3 people have each had 4 pints at a pub; they are, for criminal liability purposes, over the limit. 2 of them offer the third a ride home. One drives a manually operated car, and one has a fully automated vehicle. If the person agrees to a ride in the manually operated car, they are more at risk of suffering an injury but will not be found culpable for a permitting offence, whereas if they agree to the ride in the AV, they are likely to be much safer but are criminally liable for a permitting offence. If the public are made aware of this, they are more likely to prefer rides in traditional cars. Interest in ADS will be reduced because people will not want to risk incurring criminal liability just for riding in a car.

For these reasons, we are generally against extending permitting offences to passengers of AVs. We see, however, the cause or permit offences as a useful means of extending criminal liability to those who assist a user-in-charge in, for example, modifying his ADS to circumvent safety features.

CONSULTATION QUESTION 32

5.21 We provisionally propose that persons carried without a user-in-charge should be guilty of a criminal offence.

Do you agree?

In the Law Commission's first AV consultation, question 26 asked: 'Where a vehicle is listed as only safe to drive itself with a user-in-charge, should it be a criminal offence to be carried in the vehicle if there is no person able to operate the controls?'

We said: yes, should conditionally automated vehicles be type approved at international level for use with a user-in-charge then it should also be a criminal offence if the user-in-charge is not seated in the user's seat and able to operate the vehicle's controls at all times.

We continue to believe that to be the case, though AVs should be developed in such a way that this eventuality is not possible. In short, regulations should require that all Path 1 AVs require a user-in-charge to be within reach of the controls at all times, and any breach will result in a mandatory transition demand leading to a shutdown of ADS. If such a regulation were put in place, this question should be largely moot. Any AV that allowed the vehicle to continue to self-drive without a user-in-charge within reach of the controls would have been illegally modified, and those responsible for the modification, along with the person who should be user-in-charge, would be criminally liable.

Whether or not such regulations are passed, we have reservations about agreeing that other persons being carried should be guilty of a criminal offence. The reasons are very similar to those we laid out in our response to question 31 above. Very briefly:

- average members of the public will not necessarily know when or if a user-in-charge is required for the vehicle;
- expanding permitting offences in this way runs the risk of reducing public appetite for automated vehicles.

Additionally, we question how expanding liability for a lack of user-in-charge would work for AVs provided by service providers. If a taxi or MaaS company sent an AV without a user-in-charge, who would be liable? Would the passengers be as criminally liable as the company?

The goal of updating the law to incorporate ADS should be to maximise road safety and encourage the public to embrace this new technology. Increasing the likelihood of them facing criminal liability for using AVs will likely dampen the appetite.

CONSULTATION QUESTION 33

5.22 We seek views on whether the new proposed offence of being carried without a user-in-charge should only apply if the person:

- 1) knew that the vehicle did not have a user-in-charge; and**
- 2) knew or ought to have known that a user-in-charge was required.**

As we have set out in our response to question 32 above, we question the wisdom and practicality of expanding criminal liability to passengers in this way.

Without a concerted public education campaign, members of the public cannot be expected to know the rules around users-in-charge.

CONSULTATION QUESTION 34

5.27 We provisionally propose that a user-in-charge who takes over control of the vehicle:

- 1) should be considered a driver; but**
- 2) should have a specific defence to a criminal offence if, given the actions of the ADS, a competent and careful driver could not have avoided the offence.**

Do you agree? If not, we welcome views on alternative legal tests.

(1) In order for automated driving to work in practice there needs to be a clear delineation of both civil and criminal liabilities, depending on whether or not the ADS is engaged. For this reason, we agree that if a user-in-charge takes control of a vehicle (and see our response to question 29 above about the need for the transition to be as clear as possible), they should be considered a driver.

When an ADS-equipped vehicle is in automated mode, a user-in-charge cannot be able to be involved in driving without first triggering a transition. If a user-in-charge was able to override the ADS and intervene with the dynamic driving task, it would be extremely difficult to identify the cause of an incident.

Clarity of handover between human and machine is fundamentally important to promote consumer confidence in automated vehicles. Any blurring of the lines risks causing confusion and eroding trust.

(2) We agree with the Law Commission's preferred option. Any user-in-charge who has resumed control becomes a driver for criminal (and civil) liability purposes, but can raise the defence of having acted as a careful and competent driver. It will then fall to the prosecutor to prove that they failed to meet that standard.

This raises a few related issues:

- Firstly, it makes clear that all relevant data relating to ADS needs to be retained, accessible and understandable by those parties needing to rely upon it for legal purposes.
- Secondly, users-in-charge and drivers cannot be allowed to avoid liability by attempting to blame ADS for an act for which the driver is actually liable. Again, data needs to be able to provide for accurate assigning of liability.

CONSULTATION QUESTION 35

5.32 We provisionally propose that the user-in-charge should be liable for criminal offences which do not arise from the dynamic driving task, including those related to:

- 1) insurance;**
- 2) maintaining the vehicle in a roadworthy condition (including installing safety critical software updates);**
- 3) parking;**
- 4) duties following accidents to provide information and report accidents to the police; and**
- 5) ensuring child passengers wear seatbelts.**

Do you agree?

We agree with all points with a few caveats.

(1) Proof of insurance should be mandatory before ADS is operable, much like computers require entering a software licence number before one can use that software. Such a system would drastically cut down on the number of uninsured AVs.

(2) In an effort to ensure that the ADS is kept up to date, we propose that all ADS equipped cars be required to undergo a digital MOT, possibly alongside the traditional MOT check.

(3) Whilst a user-in-charge should be liable for parking in manual driving mode, the technology already exists enabling self-parking, with the appropriate infrastructure, out of the line of sight of the user-in-charge – see e.g. the new Mercedes Benz S Class. In cases where a vehicle self-parks, we suggest it is worth considering where liability rests, especially where issues arise relating to software or infrastructure problems.

(4) One of the problems with classifying ALKS-equipped vehicles as ADS is that they are only required to stop after a serious collision, i.e. – one that causes airbag deployment. More than ninety percent of collisions do not result in airbag deployment, including many examples of vehicles hitting people. The result could be that ALKS-equipped vehicles will be more likely to hit pedestrians and not stop afterwards. All ADS need to be required to have sensors and software that are better able to deal with accidents, and they need to record all data that arises from those incidents.

If we allow users-in-charge to disengage from driving because the ADS can be trusted to self-drive, we expect the defence to not fulfilling the s170 duty to report (found in *Harding v Price* [1948] 1 All ER 283) will be relied upon much more extensively than it is at present. Given the forthcoming changes to low value RTA personal injury claims, and the probable increase in litigants in person, it may be advisable that the *Harding* defence be incorporated into legislation.

CONSULTATION QUESTION 36

5.33 We provisionally propose that the legislation should include a regulation-making power to clarify those roadworthiness failings which are (and those which are not) the responsibility of the user-in-charge.

Do you agree?

We agree.

REMOTE OPERATION: NO USER-IN-CHARGE VEHICLES

CONSULTATION QUESTION 37

6.5 We provisionally propose that:

- 1) where an individual is exercising lateral and longitudinal control (steering and braking) over a vehicle remotely, that should not be regarded as a form of "self-driving"; and
- 2) where lateral and longitudinal control are exercised by an ADS, all other forms of remote operation should be regulated as "self-driving".

Do you agree?

Yes. We agree that the SAE's definition of 'remote driving' whereby a human operator remotely controls the braking, steering and acceleration does not constitute automated driving. It is fundamentally important that there is a clear distinction between human and machine driving at all times to ensure their safe operation. We refer to our response to question 1 above regarding the importance of a safe and unequivocal transition to and from automated driving.

6.6 We welcome views on whether the current definition of when a vehicle "drives itself" under the Automated and Electric Vehicles Act 2018 should be amended to deal with some forms of remote operation which may involve a degree of "monitoring".

Yes. This is necessary to enable non-UIC AVs to function properly. However, any extension to the definition of 'self-driving' needs to be clearly defined within the AEVA 2018 in order to differentiate 'remote assistance' (where a remote human operator authorises a stationary non-UIC AV to proceed) from 'remote driving' (where the human operator manually controls the dynamic driving task albeit remotely).

CONSULTATION QUESTION 38

6.15 We provisionally propose that:

- 1) the regulation of self-driving vehicles should distinguish between an Automated Driving System Entity (which vouches for the design of the system) and an operator (responsible for the operation of individual vehicles);
- 2) all vehicles authorised for use on roads or other public places with no user-in-charge should either:
 - a) be operated by a licensed operator; or
 - b) be covered by a contract with a licensed operator for supervision and maintenance services;
- 3) it should be a criminal offence to use a NUIC vehicle on a road or other public place unless it is operated by a licensed operator or is covered by a contract with a licensed operator for supervision and maintenance services.

Do you agree?

Regarding (1), in the context of NUIC vehicles we agree that the regulation of self-driving vehicles should distinguish between an ADSE which vouches for the design of the ADS, and an operator which is responsible for safe operation of individual vehicles.

Regarding (2)(a), we agree that all HARPS NUIC vehicles should be operated by a licensed operator. We refer to our response to question 1 of the consultation on HARPS regarding our rationale.²³

Regarding (2)(b), we agree that non-HARPS NUIC vehicles should be covered by a contract for supervision and maintenance. We refer to our response to question 21 of the consultation on HARPS regarding our rationale.²⁴

Regarding (3), we agree that it should be a criminal offence to use a NUIC without one of these provisions in place.

CONSULTATION QUESTION 39

6.18 We welcome views on whether NUIC operators should be required to demonstrate professional competence through a safety management system, as set out in a safety case.

Yes. We refer specifically to our response to question 8 of the consultation on HARPS in this regard.²⁵

CONSULTATION QUESTION 40

6.21 We provisionally propose that, irrespective of the nature of the vehicle, a licensed operator should be under a duty to:

- 1) supervise the vehicle;**
- 2) maintain the vehicle;**
- 3) insure the vehicle;**
- 4) install safety-critical updates and maintain cybersecurity; and**
- 5) report accidents and untoward events (as defined by the regulator).**

Do you agree?

Yes, with the exception of the maintenance of the non-ADS aspects of the vehicle. In respect of (2) and (4), please see our response to question 41 below. In respect of (1), (3) and (5) we refer to our response to question 11 of the consultation on HARPS.²⁶

²³ Automated Vehicles: Consultation Paper 2 on Passenger Services and Public Transport – Response on behalf of DAC Beachcroft LLP, Q1

²⁴ Automated Vehicles: Consultation Paper 2 on Passenger Services and Public Transport – Response on behalf of DAC Beachcroft LLP, Q21

²⁵ Automated Vehicles: Consultation Paper 2 on Passenger Services and Public Transport – Response on behalf of DAC Beachcroft LLP, Q8
<https://www.dacbeachcroft.com/media/2321325/law-com-second-consultation-on-avs-passenger-services-and-public-transport-a-response-from-dac-beachcroft-llp.pdf>

²⁶ Automated Vehicles: Consultation Paper 2 on Passenger Services and Public Transport – Response on behalf of DAC Beachcroft LLP, Q11
<https://www.dacbeachcroft.com/media/2321325/law-com-second-consultation-on-avs-passenger-services-and-public-transport-a-response-from-dac-beachcroft-llp.pdf>

CONSULTATION QUESTION 41

6.22 We provisionally propose that legislation should include a regulation-making power by which some or all of these duties could be transferred to the registered keeper or owner, if it was shown that it was appropriate to do so.

Do you agree?

No. With the exception of the duty to insure and maintain the non-ADS related components of the vehicle (e.g. tyres) as is the case in respect of conventional lease car arrangements, in respect of NUIC vehicles all other duties should be retained by the licensed operator and not capable of transfer to another party for reasons of safety. The ADS technology should be leveraged to ensure that safety critical updates are installed over the air, and before the ADS is made operative. Similarly, accident reporting should be automated via the ADS.

In our response to question 21 in the HARPS consultation²⁷, we pointed out that the majority of HARPS vehicles are likely to be leased. The same is probably true of NUIC vehicles. Those leasing such a vehicle will most likely be prepared to pay a monthly premium to cover things like servicing, software updates and remote supervision. In the interest of safety and consistent monitoring of passenger-only vehicles, we do not consider it appropriate to allow a leasing company to devolve responsibility for compliance with any of the obligations listed to the registered keeper. Instead, these costs should be bundled into the overall cost of the lease, so that the leasing company operates in the same way as a HARPS/NUIC operator.

In the unlikely eventuality that a passenger-only vehicle is sold privately, there should be a legal requirement to purchase an ongoing 'care package' from a licensed provider (which could be the vehicle manufacturer) to assume responsibility for the obligations detailed above.

Whatever the Law Commission recommends, it must ensure that all recommended requirements be abundantly clear. Registered keepers will need to be comfortable with the requirements placed upon them. Additionally, the Law Commission should recommend the consequences of not satisfying the requirement.

²⁷ Automated Vehicles: Consultation Paper 2 on Passenger Services and Public Transport – Response on behalf of DAC Beachcroft LLP, Q21

<https://www.dacbeachcroft.com/media/2321325/law-com-second-consultation-on-avs-passenger-services-and-public-transport-a-response-from-dac-beachcroft-llp.pdf>

CONSULTATION QUESTION 42

6.27 We welcome views on how accessibility standards for Highly Automated Road Passenger Services (HARPS) might be developed.

6.28 We provisionally propose that:

- 1) an accessibility advisory panel should be formed to include:
 - a) the Equalities and Human Rights Commission; and**
 - b) representative groups for disabled and older persons;****
- 2) the Secretary of State should be obliged to consult with the accessibility advisory panel prior to setting any national minimum standards on HARPS;**
- 3) there should be a duty to periodically re-consult the accessibility advisory panel at set intervals to ensure requirements keep pace with developing evidence of technical feasibility and changing needs.**

Do you agree?

Regarding the development of accessibility standards for HARPS vehicles, we refer to our responses to questions 24 to 28 inclusive of the consultation on HARPS.²⁸

Regarding (1), we agree that an accessibility advisory panel should be formed to include the Equalities and Human Rights Commission and representative groups for disabled and older persons.

Regarding (2), we agree that the Secretary of State should be obliged to consult with the accessibility advisory panel prior to setting any national minimum standards on HARPS.

Regarding (3), we agree there should be a duty to periodically re-consult the accessibility advisory panel at set intervals to ensure requirements keep pace with developing evidence of technical feasibility and changing needs.

6.29 We welcome views on what the set interval for periodically re-consulting the accessibility advisory panel should be.

We defer to manufacturers in this regard, who will be best placed comment on the likely speed of product development as technologies advance.

CONSULTATION QUESTION 43

6.33 We welcome views on who should administer the operator licensing scheme.

We consider the Traffic Commissioners are best placed to administer the operator licensing scheme for NUIC vehicles. We refer to our response to question 15 of the consultation on HARPS.²⁹

²⁸ Automated Vehicles: Consultation Paper 2 on Passenger Services and Public Transport – Response on behalf of DAC Beachcroft LLP, Q24 - 28

²⁹ Automated Vehicles: Consultation Paper 2 on Passenger Services and Public Transport – Response on behalf of DAC Beachcroft LLP, Q15

CRIMINAL OFFENCES BY ADSES AND THEIR SENIOR MANAGERS

CONSULTATION QUESTION 44

18.46 We provisionally propose that:

- 1) it should be a criminal offence for an ADSE to omit safety-relevant information or include misleading information when putting a vehicle forward for classification as self-driving or responding to information requests from the regulator;**
- 2) the offence should apply to senior managers (where it was attributable to the manager's consent, connivance or neglect);**
- 3) the offence should not apply to more junior employees;**
- 4) the offence should carry a higher sentence if it is associated with a death or serious injury;**
- 5) the offence should be prosecuted in England and Wales by either the regulator or the Crown Prosecution Service and in Scotland by the Procurator Fiscal.**

Do you agree?

It is important that an ADSE can be relied upon to submit an honest and clear safety case.

As per our response to the Law Commission's first consultation paper (consultation question 9), we agree that it is right that every automated driving system should be backed by an ADSE which takes responsibility for the safety of the system and is subject to regulatory sanctions and criminal liabilities if the ADSE fails to identify and manage safety risks associated with the system.

Therefore, we agree with the provisional proposal that, whilst not dis-applying any existing criminal legislation, specific new criminal offences should be created to deal appropriately with an ADSE's culpability where an ADSE omits safety-relevant information, or includes misleading information, when putting a vehicle forward for classification as self-driving, or responding to information requests from the regulator.

We would agree that such offences should apply to senior managers (where culpability is attributable to the manager's consent, connivance or neglect).

We agree that such offences should not apply to more junior employees.

We also agree that the penalties should be more severe where associated with a death or serious injury.

We would agree that whilst the regulator should be able to prosecute the suggested new offences, such offences should also be capable of being prosecuted in England and Wales by the Crown Prosecution Service and in Scotland by the Procurator Fiscal.

CONSULTATION QUESTION 45

18.47 We seek views on the following proposed offences.

Offence A: non-disclosure and misleading information in the safety case

When putting forward a vehicle for classification as self-driving, it would be a criminal offence for the ADSE to

- 1) fail to provide information to the regulator; or**
- 2) provide information to the regulator that is false or misleading in a material particular**

where that information is relevant to the evaluation of the safety of the ADS or the vehicle.

The ADSE would have a defence if it could show that it took reasonable precautions and exercised all due diligence to prevent the wrongdoing.

The penalty would be an unlimited fine.

The ADSE will have access to all available data in respect of a vehicle put forward for classification as self-driving. It is crucial that the ADSE can be relied upon to submit an honest and clear safety case. Failure to do so creates a risk to vehicle users, other road users, pedestrians and property.

It follows that an ADSE should be held criminally liable if it fails to provide information to the regulator, or provides false or misleading information, where such information is relevant to the evaluation of the safety of the ADS or the vehicle.

Creating criminal liability where an ADSE fails to disclose information, or presents information in a misleading way, will act as a deterrent from compromising safety standards to gain competitive advantage and avoids a radical asymmetry between the treatment of human drivers and ADSEs.

Whilst attaching criminal liability to wrongdoing may present risks of stifling innovation, this appears suitably addressed by only criminalising behaviour that clearly undermines the safety assurance scheme and affording an ADSE a defence if it can show that it took reasonable precautions and exercised all due diligence to prevent the wrongdoing. Indeed a 'due diligence' defence promotes good practice.

The suggested penalty of an unlimited fine would appear to be the appropriate maximum sentence as any violation needs to be economically undesirable to the ADSE. However, we would also suggest that other ancillary sanctions should be available to the courts, such as suspension or withdrawal from ADS approval.

Further, sentencing guidelines should be introduced, providing guidance on factors the courts should take into account that may affect the sentence. This will ensure consistency in sentencing.

Offence B: non-disclosure and misleading information in responding to

Requests

When a regulator requests specific information from an ADSE (whether before or after deployment), it would be a criminal offence for the ADSE to

- 1) fail to provide information to the regulator; or**
- 2) provide information to the regulator that is false or misleading in a material particular where that information is relevant to the evaluation of the safety of the ADS or the vehicle.**

The ADSE would have a defence if it could show that it took reasonable precautions and exercised all due diligence to prevent the wrongdoing.

The penalty would be an unlimited fine.

Our answer is identical to our answer to Offence A above.

Offence C: offences by senior management

Where offence A and/or offence B committed by a body corporate is proved –

- 1) to have been committed with the consent or connivance of an officer of the body corporate; or**
- 2) to be attributable to neglect on the part of an officer of the body corporate, then that officer is guilty of the offence.**

An officer includes any director, manager, secretary or other similar officer or any person who was purporting to act in any such capacity.

We see this as equivalent to offences under the Human Medicines Regulations 2012 and General Product Safety Regulations 2005, which carry a penalty of a fine and/or a maximum two years' imprisonment.

The public has a right to expect an officer of an ADSE to submit an honest and clear safety case. Failure to do so creates a risk to vehicle users, other road users, pedestrians and property.

Creating an offence which makes an officer of the ADSE personally liable when criminal acts are committed with their consent or connivance, focuses the minds of senior managers on implementing a safety first culture and encourages honesty, openness and transparency.

Creating criminal liability where an officer of the ADSE fails to disclose information, or presents information in a misleading way, will act as a deterrent from compromising safety standards to gain competitive advantage and avoids a radical asymmetry between the treatment of human drivers and ADSEs.

The suggested penalty of a fine, or up to 2 years imprisonment, commensurate with offences contrary to the Human Medicines Regulations 2012 and General Product Safety Regulations 2005, would appear appropriate.

Again, we would suggest that sentencing guidelines are introduced providing guidance on factors the courts should take into account that may affect the sentence. This will ensure consistency in sentencing.

Offence D: aggravated offences in the event of death or serious injury following non-disclosure or provision of misleading information to the AV safety regulator

Where a corporation or person commits Offences A to C, that offence is aggravated where the misrepresentation or non-disclosure:

- 1) related to an increased risk of a type of adverse incident; and
- 2) an adverse incident of that type occurred; and
- 3) the adverse incident caused a death or serious injury.

We see this as equivalent to the offence of causing death by dangerous driving, which carries a penalty of an unlimited fine and/or a maximum of 14 years' imprisonment.

We agree that where an offence relates to an increased risk of a type of adverse incident and an adverse incident of that type occurred causing death or serious injury, the offence is aggravated.

The risk of an adverse incident resulting in death or serious injury is very real. The threat of prosecution for an aggravated offence carrying a significant maximum sentence will act as a deterrent from compromising safety standards to gain competitive advantage and also avoids a radical asymmetry between the treatment of human drivers and ADSEs.

CONSULTATION QUESTION 46

18.48 We welcome views on whether an ADSE should be under a duty to present information in a clear and accessible form, in which safety-critical information is indexed and signposted.

To negate the risk of safety-critical information being overlooked by a regulator when an ADSE is presenting the safety of a case, either due to an inadvertent lack of clarity or a more disingenuous act, such as seeking to bury information within a 'data dump', it would appear proportionate to place ADSEs under a duty to present information in a clear and accessible form, in which safety-critical information is indexed and signposted.

NEW WRONGFUL INTERFERENCE OFFENCES

CONSULTATION QUESTION 47

18.49 We provisionally propose that legislative amendment should clarify that the tampering offence in section 25 of the Road Traffic Act 1988 applies to anything that is physically part of a vehicle and any software installed within it.

Do you agree ?

It will naturally be a matter of public concern that interference with ancillary systems, such as sensors, software and communications systems could have serious consequences for occupants of AVs, pedestrians and other road users, particularly given that items such as sensors will be exposed more greatly exposed to interference than more integral mechanisms, such as brakes.

Whilst most conceivable forms of vehicle interference are already criminal offences, comprehensive amendments to existing legislation would provide clarity, increase public confidence and act as a deterrent.

We would agree that legislative amendment should clarify that the tampering offence in s. 25 of the Road Traffic Act 1988 applies to anything that is physically part of a vehicle and any software installed within it so as to ensure clarity.

This broad approach would avoid the need to list all types of equipment and mechanisms.

CONSULTATION QUESTION 48

18.50 We welcome views on whether the tampering offence should apply to external infrastructure required for the operation of the AV.

It will naturally be a matter of public concern that interference with separate external infrastructure required for the operation of the AV; for example networks, beacons, or the data held within the system, could have serious consequences for occupants of AVs, pedestrians and other road users.

Whilst most conceivable forms of interference with separate external infrastructure would be covered by existing criminal offences, applying the tampering offence to external infrastructure would provide clarity, increase public confidence and act as a deterrent.

We are of the view that the tampering offence should also apply to separate external infrastructure required for the operation of the AV; for example networks, beacons, or the data held within the system.

CONSULTATION QUESTION 49

18.51 We provisionally propose that there should be an aggravated offence of wrongfully interfering with an AV, the road, or traffic equipment contrary to section 22A of the Road Traffic Act 1988, where the interference results in an AV causing death or serious injury, in:

- 1) England and Wales; and**
- 2) Scotland.**

Do you agree?

A new statutory aggravated offence of wrongfully interfering with an AV, the road, or traffic equipment, would cover acts of interference which result in death or serious injury. Such acts involving deaths would already amount to offences in England, Wales and Scotland. However, we agree that it would be favourable for new legislation to introduce a new aggravated offence of wrongful interference with an AV, the road, or traffic equipment, encompassing acts of interference which result in death or serious injury.

The creation of an aggravated offence of wrongfully interfering with an AV, the road, or traffic equipment, will also present a clear deterrent to potentially dangerous behaviour such as interfering with white lines, road signs or traffic lights.

Further, it will not only enable a conviction for such behaviour to reflect an offender's culpability, but also meet public expectations. Under existing legislation in England & Wales (s.22A of the Road Traffic Act 1988 and Schedule 2 of the Road Traffic Offenders Act 1988), a person who interferes (directly or indirectly) with traffic equipment, in such circumstances that it would be obvious to a reasonable person that to do so would be dangerous, is liable on conviction on Indictment to a maximum sentence of 7 years imprisonment. Legislation creating a new aggravated offence could afford the courts greater sentencing powers for the most serious offences which result in serious injury, death, or multiple serious injuries and/or deaths.

Extending the application to Scotland would allow for consistency in application and sentencing.

CONSULTATION QUESTION 50

18.52 We provisionally propose that the appropriate mental element for the aggravated offence is intent to interfere with a vehicle, the road or traffic equipment.

Do you agree?

We agree that the mental standard for the proposed aggravated offence should be "*intent to interfere with a vehicle, the road or traffic equipment*" and that there need not be an intent to bring about the consequences of that act, nor a subjective appreciation of the risk of those consequences, thus mirroring the mental standard of an offence contrary to s.22A of the Road Traffic Act 1988 (in England & Wales).

CONSULTATION QUESTION 51

18.53 We seek views on whether an approved work defence for repair or maintenance operations authorised by a vehicle manufacturer or Automated Driving System Entity is desirable.

Section 22A of the Road Traffic Act 1988 makes it a criminal offence for any person to interfere "*intentionally and without lawful authority or reasonable cause*" with a motor vehicle or trailer, or traffic equipment (such as traffic signs) in a manner that a reasonable observer would regard as causing danger to persons or property on or near a road.

We see "*lawful authority*" and "*reasonable cause*" as providing separate exceptions to criminal liability and so question the need for an approved work defence to ensure protection to those undertaking bona fide approved repairs, or maintenance operations, authorised by a vehicle manufacturer or ADSE.

CIVIL LIABILITY

CONSULTATION QUESTION 52

9.5 We provisionally propose that the way the Automated and Electric Vehicles Act 2018 deals with contributory negligence and causation is:

- 1) adequate at this stage; and**
- 2) should be reviewed by the UK Government in the light of practical experience.**

Do you agree?

(1) We agree.

(2) We agree. As with practically all other aspects of automated vehicles, the possibilities relating to negligence are still entirely theoretical. Until AVs are on the road network and integrated into the public fleet, we will lack the practical experience to know if AEVA is adequate.

Once real world data is available, the government should review all aspects of AEVA, including matters relating to contributory negligence and causation.

CONSULTATION QUESTION 53

9.9 We provisionally propose that measures should be put in place to compensate the victims of accidents caused by uninsured AVs.

Do you agree?

We agree. Proof of insurance should be mandatory before ADS is operable, much like computers require entering a software licence number before one can use that software. Such a system would drastically cut down on the number of uninsured AVs. This will reduce the number of victims of accidents caused by uninsured AVs, ease pressure on the MIB and lower premiums.

CONSULTATION QUESTION 54

We provisionally propose that:

- 1) product liability law should be reviewed to take account of the challenges of emerging technologies;**
- 2) any review should cover product liability as a whole, rather than be confined to automated vehicles; it should not, therefore, form part of this project on automated vehicles.**

Do you agree?

We agree that product liability law needs to be reviewed to take account of the challenges of emerging digital technologies and artificial intelligence. We agree that any review should cover product liability generally rather than be confined to automated vehicles, as the issues regarding software liability arise in many different industries.

Because AEVA makes AVs liable, ADS is fundamentally different to other technological innovations. There should be a specific review of whether existing product liability is able to deal with the changes ADS will introduce once those systems are on the road network. The public risk otherwise is that adequate liability insurance to use ADS-equipped vehicles may not be affordable.

ACCESS TO DATA

CONSULTATION QUESTION 55

10.17 We provisionally propose that:

- 1) for a vehicle to be classified as self-driving, it needs to record the location as well as the time at which the ADS is activated and deactivated;**
- 2) the Government should work within the UNECE to ensure data storage systems for automated driving record these data; and**
- 3) any national system to approve an ADS should require these data to be collected, subject to safeguards.**

Do you agree?

In respect of the processing of location data, the consultation adequately addresses:

- why location data could constitute personal data and/or special category data;
- what the relevant legal basis for processing of location data would be; and
- the reasons why the processing of location data is necessary.

Generally, this satisfies the data protection elements from a GDPR/UK GDPR perspective.

However, the processing of location data is, as the consultation paper notes, also governed by the ePrivacy Directive 2002/58/EC ("ePrivacy Directive"), implemented into domestic law by the Privacy and Electronic Communications (EC Directive) Regulations 2003 ("ePrivacy 2003 Regulations") (to be replaced by the e-Privacy Regulation in due course once agreed). Paragraph 17.61 of the consultation paper states that "Following the end of the transition period, the ePrivacy Directive will no longer apply in Great Britain." We do not agree with this statement as it is more nuanced than that. The ePrivacy 2003 Regulations sit alongside the Data Protection Act 2018 and the UK GDPR; therefore the obligations and restrictions governing location data (as set out in the ePrivacy 2003 Regulations) will still apply in the UK.

The Law Commission is correct that the ePrivacy Directive (and ePrivacy 2003 Regulations) was not drafted with AVs in mind and therefore, as set out in paragraph 17.62, it is arguable that it was not intended to prevent location data from being retained at all without consent. With that being said, the view set out in paragraph 17.60 that there is a public security exception (from obtaining consent to process location data) which can be relied upon is undetermined as it has not yet been tested or defined. This would need to be considered further in liaison with the ICO for further guidance.

CONSULTATION QUESTION 56

10.19 We provisionally propose that legislation should impose a duty on those controlling AV data to disclose data to insurers, where the data is necessary to decide claims fairly and accurately.

Do you agree?

If it was a legal requirement that certain data controllers (such as ADSEs) must disclose data to insurers (for example for claims handling purposes and/or fraud prevention) this this would certainly provide certainty from a data protection perspective and would ensure that the relevant legal basis would be consistently relied upon within the insurance industry (i.e. that processing (disclosure) was necessary for compliance with a legal obligation to which the controller organisation was subject). However, legislation would have to mandate and specify the nature of data, purposes of processing and scope of processing so that insurers and those controlling AVs

could comfortably communicate this to data subjects in privacy notices to ensure transparency from the outset.

Additionally, if this disclosure of data were to become a legal requirement, it would be prudent and in both the interests of ADSEs and insurers to be able to rely on a universal/template data sharing agreement – this would involve liaising with insurance bodies and working groups.

We also note that the data is also likely to be required by insurers for underwriting purposes / to calculate an appropriate premium / terms and/or to decide whether or not to offer cover at renewal. Further, there is a strong argument that such data should also be shared with insurance intermediaries (such as insurance brokers) to ensure that risks can effectively be marketed and consumers can obtain competitive quotes and not be restricted to remain with the same insurer. Whilst these purposes go beyond using data for claims handling purposes (for which there would be a legal requirement to use such data), it is important to note the wider uses of such data by insurers and insurance intermediaries.

CONSULTATION QUESTION 57

10.23 We provisionally propose that:

- 1) initially, DSSAD data from self-driving vehicles should be stored for three years; and**
- 2) the issue should be reviewed in the light of experience.**

Do you agree?

The reasons for retaining data for a three year retention period seem sensible and rational (i.e. linking the retention period to the limitation period under AEVA) however it is usually common practice to add on an extra year i.e. to retain the data for limitation period plus one year to allow for some degree of error and flexibility.

However, we would seek clarity over whether the proposed three year retention period would apply only for the retention of DSSAD data by ADSEs as undoubtedly the retention of DSSAD data would be useful by other third parties such as:

- (from an insurer's perspective) to guard against fraudulent motor claims from individuals and for their own underwriting purposes and for calculation premium and/or placement of insurance at the time of renewal; and
- insurance intermediaries for the purpose of ensuring that risks can effectively be marketed and consumers can obtain competitive quotes and not be restricted to remain with the same insurers.

Where DSSAD data contains data relating to children and/or vulnerable persons, we are of the view that the three year retention period would still be appropriate (for the reasons set out above). With that being said, organisations retaining such data would:

- have to ensure that, given the nature of the data and the individual to whom it relates, more stringent security provisions are applied to its storage;
- would need to consider how they are transparent about their processing of data relating to such individuals, particularly as additional obligations apply in respect of children's data (i.e. it should be age-appropriate and presented in a way that appeals to a young audience).

In any case, we agree that the retention period should be reviewed in the light of experience.

CONSULTATION QUESTION 58

10.26 We provisionally propose that:

- 1) when an ADSE applies for categorisation of its vehicle types as self-driving, it should present the regulator with details on how data will be recorded, stored, accessed and protected;
- 2) the regulator should only categorise a system as self-driving if it is satisfied that that the ADSE has systems to abide by its obligations under the GDPR.

Do you agree?

Yes, we agree; this proposal would ensure that privacy and data protection by design is being considered from the outset.

For the avoidance of doubt and for clarity, we would suggest that the data which must be presented to the regulator must at a minimum, contain details on what data is collected and how such data will be recorded, stored, accessed and protected.

Such information about uses of personal data would likely be teased out during a privacy risk assessment otherwise known as a data privacy impact assessment (DPIA) so we would recommend that when an ADSE applies for categorisation of its vehicle types as self-driving, that the process must require ADSEs to undertake and complete a DPIA and this should also be presented to the regulator.

Further, whilst we agree that the regulator should only categorise a system as self-driving if it is satisfied that that the ADSE has systems to abide by its obligations under the GDPR, this requirement should be extended to cover any obligations under any applicable data protection laws including the UK GDPR post Brexit.

The regulator would need to liaise with the relevant data protection regulator such as the ICO, to ensure that it can properly and adequately satisfy itself that an ADSE can adhere to its obligations under protection laws. Therefore, we would suggest that the regulator would benefit from the publication of a code of practice or guidance from the ICO which specifically addresses such data protection matters in the context of ADSEs and AVs.

FOR FURTHER INFORMATION:

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DAC BEACHCROFT

CENTRE FOR CONNECTED AND AUTONOMOUS VEHICLES

Safe Use of Automated Lane Keeping System (ALKS): Call for Evidence

Response on behalf of DAC Beachcroft LLP

ABOUT US

DAC Beachcroft LLP is a leading international legal business with offices across the UK, Europe, Asia Pacific and Latin America.

We partner with our clients to help them achieve sustainable growth and to defend their business and reputation. We do this by taking a tailored approach to providing commercial, transactional, claims, risk and advisory legal services.

We are recognised leaders in Insurance, Health and Real Estate and draw on the knowledge, industry experience and commercial expertise of our outstanding 2,200 lawyers and support colleagues in these sectors and beyond.

We are forward-thinking, flexible and easy to engage with and we're proud that our clients tell us regularly that we're great to work with.

We know that our clients value advice that is innovative, practical and personal to them, and we pride ourselves on getting to the heart of their businesses. We measure our performance against their expectations and embrace change as a necessary stage in evolving and strengthening our relationships.

The close working relationship we enjoy with our clients has not been built overnight but honed carefully over the last 250 years. This means today our clients can remain confident they have the very best legal expertise available.

GENERAL OBSERVATIONS

Automated Lane Keeping Systems (ALKS) provides a tremendous opportunity for vehicle safety to move forward by potentially reducing the number of human-led accidents. It could save money for the government, the NHS, insurance policy holders and taxpayers. For this to happen, though, it needs to be tested in real world scenarios adequately, integrated onto British roads properly and regulated accordingly.

A rush to define ALKS as automated driving for the purposes of the Automated and Electric Vehicles Act 2018 (AEVA) runs the risk of allowing the untested and inadequately prepared systems to cause or make worse accidents and cause sectors of the media to question the safety of automated driving systems. This, in turn, risks undermining consumer confidence and setting mass scale adoption of the technology back years.

For these reasons, we are completely against classifying ALKS as automated driving for the purposes of the AEVA.

Instead, we strongly encourage the government to classify ALKS, which uses a combination of existing Advanced Driver Assistance Systems (ADAS) technologies, as driver assistance. As the technology improves, and as real world data becomes available as to ALKS's strengths and weaknesses, the idea of classifying it as an automated driving system can be revisited, and consulted upon, at a later date.

Overview of ALKS

DATA STORAGE

Do you foresee any legal barriers to the police accessing data for incident investigation?

Yes

What, in your opinion, are those barriers?

Ensuring compliance with data protection laws – not necessarily a legal barrier but it will certainly be an area of consideration. For the purposes of incident investigation, certain data collated by the Data Storage System for Automated Driving (DSSAD) will be processed by relevant authorities to inspect the status of the vehicle to assist in reviewing road traffic offences. The Call For Evidence outlines the information the DSSAD will be recording (see paragraph 2.19) and whilst it does not initially seem like personal data, it is likely to relate to directly/indirectly to an identifiable individual because it will contain information about driver input, emergency manoeuvres carried out by the driver, involvement in a detected collision (i.e. affected parties) etc. Therefore data protection laws will be applicable and any proposed data sharing for the purpose of incident investigation will mean that the following factors will need to be considered:

1. Who will be the controller of personal data collected by the DSSAD? The Manufacturer?
2. Will drivers be presented with an appropriate fair processing notice which sets out the scope of personal data collected by the DSSAD and makes clear that, in the event of an incident and incident investigation, data will be shared with third parties such as police, insurers etc.?
3. What will be the relevant legal basis for sharing data with such parties?
4. Data minimisation – the extent of personal data shared should only be limited to that which is necessary for incident investigation.
5. Data sharing agreements will need to be put in place.
6. How long should data collected by the DSSAD be retained for?

DRIVER EDUCATION

How do you think the driver should be educated and informed to understand the abilities and limitations of the system?

Studies going back to the 1970s show that skilled operators are better at taking control of automated systems than are unskilled operators. Those who have been properly trained make the minimum number of required actions allowing for faster and more seamless changeover.³⁰ From a theoretical perspective, we feel this is reason

³⁰ L Bainbridge, 'Ironies of Automation', *IFAC Proceedings Volumes*, 15.6 (1982), pp 129-135.

enough for adequate mandatory training in ALKS for each driver who wants to use the system.

There is a practical reason for also requiring adequate ALKS training. British insurers have published 'Defining Safe Automated Driving', a document setting out twelve key criteria for safe adoption of automated driving in the public sphere.

In addressing driver training and education, Defining Safe Automated Driving states that: '*Vehicles must ensure and validate that drivers understand the system functionality and their roles and obligations in Automated Driving before automation can start.*'

We interpret that to mean that driver education needs to include the following:

1. It needs to be compulsory. Drivers cannot activate ALKS until they have completed the training; and
2. Each driver needs to complete the training. The vehicle needs to detect if there is a new driver and will then require completion of the training.

In addition, we believe the following would be beneficial to safe use of ALKS:

- Training should be in the ALKS-equipped vehicle, via the infotainment system, with the vehicle's sensors checking to make sure the driver is engaged with the training session;
- To ensure that drivers are kept up-to-date with changes to the ALKS systems as they are improved, ALKS-equipped cars should require refresher training courses. These do not need to be as comprehensive as the original training session;
- Just as the DVLA recently incorporated use of satnav in the driving test, we believe that it would be beneficial to include ALKS in the driving test in the next few years.

What role do you think manufacturers selling this system should play in providing this education and information?

What role do you think government and its agencies should play in providing this education and information?

Manufacturers, Government and insurers need to work together closely to ensure that the training and education that drivers receive is clear, adequate and maximises the

likelihood that all drivers who choose to use ALKS will do so safely. For this reason, we have answered these two questions together.

Manufacturers' primary role will be to develop the necessary training element, provide it via the vehicle's infotainment system, and ensure that all drivers complete the compulsory training before they can engage the ALKS system.

'Defining Safe Automated Driving' states: '*The [training] system must be inherently simple and intuitive to understand that the need for training is minimised.*'

Manufacturers will need to bear this in mind when they develop their training systems.

Government's role will be to set mandatory training standards, oversee compliance and regulate for failure to comply. It will need to ensure that all training is compulsory for all drivers.

We strongly urge government to consider updating the driving test to incorporate ALKS as a component.

Insurers need to set out in greater detail their requirements for training standards so that manufacturers and government know what will satisfy insurers' requirements and guarantee ALKS-equipped vehicles are insurable, preferably at reduced risk and lower premiums when compared to non-ALKS-equipped vehicles.

Ensuring Safe Use

AUTOMATED AND ELECTRIC VEHICLES ACT 2018

Subject to the outcome of this call for evidence and subsequent consultation, would you have concerns about a scenario where any vehicle approved to the ALKS regulation would be automatically considered to be an automated vehicle under AEVA?

Yes

If yes, what are those concerns?

We have grave concerns about a number of scenarios where any vehicle approved to the ALKS regulation would be automatically considered to be an automated vehicle under AEVA.

First and foremost, we are strongly against ALKS being considered automated driving for the purposes of the AEVA in any circumstances. The ABI, working with Thatcham Research, has set out 12 key criteria for safe adoption of automated driving in the public sphere. Only 2 of the 12 requirements are met fully by ALKS, with another 2 somewhat satisfied. We know that those organisations are submitting a joint response, and we shall defer to them on addressing this point in greater detail.

In particular, British insurers have stated unequivocally that '*systems that can only stop in lane should not be classified as automated.*'³¹ This is a clear indication of three potential major problems:

³¹ ABI, *Defining Safe Automated Driving* (2019), p 29.
DAC Beachcroft Response – CCAV: Safe Use of ALKS - Call for Evidence

1. British insurers do not consider ALKS to be advanced enough to be considered an automated driving system;
2. Government ignoring insurers' concerns could result in ALKS-equipped vehicles being expensive, difficult or even impossible to insure; and
3. Increased costs or difficulties could cause public acceptance of ALKS, and possibly AV technology generally, to suffer.

Furthermore, classifying ALKS as automated driving goes against the government's previously published policy directives regarding road safety.

Paragraph 2.1 in the 'Remote control parking and motorway assist: proposals for amending regulations and the Highway Code Government Response' states:

*The Government wants to ensure the safe and appropriate facilitation of assistive and automated driving technologies. Our aim is to maximise the social and economic benefits of these technologies without compromising safety, security or privacy. This aligns with the objectives set out in the Industrial Strategy White Paper in 2017.*³²

This paragraph should continue to be the guiding principle. As ALKS is not capable of delivering automated driving safely, it is not yet ready to be put on the Secretary of State's list.

Additionally, the technological improvements from Automated Lane Keep Assist (ALKA), Adaptive Cruise Control (ACC) and Autonomous Emergency Braking Systems (AEBS) to ALKS is not substantial enough to warrant a change in classification.

In 2018, the Government recommended that the Highway Code be updated to inform drivers that these systems are there to assist but should not reduce concentration levels. Rule 150 was amended to include the following: '*As the driver, you are still responsible for the vehicle if you use a driver assistance system (like motorway assist). This is also the case if you use a handheld remote control parking app or device. You MUST have full control over these systems at all times.*' ALKS technology is such that this should still be the case.

Our additional concerns relate to the potential damage to public confidence in automated driving technology. We know that the public already has difficulty differentiating between ADAS and automated driving technology, no doubt made worse by manufacturers' claims and marketing, e.g. – Tesla's Autopilot system, which has been ruled to be misleading by the Munich Regional Court.³³ Furthermore, stories about 'self-drive' cars being involved in accidents are often detrimental to public acceptance of the technology. In its 2019 Autonomous Vehicles Readiness Index, KPMG noted, in particular for the UK, that: '*Improving consumer acceptance will be critical for the deployment of AVs. To achieve this, government and industry have a role to play in communicating the benefits of AVs and the efforts being taken to ensure their safety.*'³⁴ Classifying ALKS as automated driving before it has been adequately tested and proven to be safe would risk further reducing public acceptance.

Classifying ALKS as automated driving systems without having real world testing or data would risk increasing the likelihood that negative press coverage of any accident would have greater negative impact on public appetite for automated driving systems.

³²

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/707095/ccav-consultation-response.pdf

³³ <https://www.bbc.co.uk/news/technology-53418069>

³⁴ KPMG, 2019 Autonomous Vehicle Readiness Index, p 20.

For these reasons, we believe ALKS should be classified as ADAS for the time being, and it should be made clear to all potential users that it cannot be relied upon without driver supervision and engagement.

As ALKS technology improves, and as real world data on ALKS systems' performance becomes available, it will be possible to revisit the classification of ALKS.

MONITORING AND CONTROL TESTS

Do you agree that the criteria in the monitoring and control tests provide a reasonable framework for testing compliance with the AEVA definition of automation?

No

Why?

The Monitoring Test

The fourth limb of the Monitoring Test makes reference to the vehicle 'avoiding putting itself in a position where it would be the cause of a collision'.

Having regard to the fact that section 1.1 of the AEVA 2018 makes reference to the ability to 'safely' drive itself, the proposed drafting of the Monitoring Test is too loose, allowing ALKS vehicles to put themselves in a position that may risk causing a collision. The obvious example of this would be where the ALKS system limits have been reached and the driver fails to respond to a transition demand, such that the vehicle carries out a Minimum Risk Manoeuvre bringing it to stop in a live lane of motorway traffic. Such a manoeuvre risks causing a collision.

The current technology of sensors could also increase the number of collisions. Sensors used in ALKS-equipped vehicles can detect a pedestrian in the centre of the lane, but studies have shown that the majority of pedestrians hit by vehicles are hit off-centre. The result is that ALKS-equipped vehicles are more likely to hit pedestrians and others who have exited their vehicles for some reason, such as a motorcyclist who has fallen off his motorcycle, or where a pedestrian exits his or her vehicle following a breakdown or collision.

ALKS-equipped vehicles are only required to stop after a serious collision, i.e. – one that causes airbag deployment. More than ninety percent of collisions do not result in airbag deployment, including many examples of vehicles hitting people. The result could be that ALKS-equipped vehicles will be more likely to hit pedestrians and not stop afterwards. This would be totally unacceptable, effectively making them 'hit and run' machines.

Instead, it should refer to the vehicle 'avoiding putting itself in a position where it could be the cause of a collision.'

The Control Test

Having regard to the fact that section 1.1 of the AEVA 2018 makes reference to the ability to 'safely' drive itself, the proposed drafting of the Control Test is not sufficiently nuanced to allow for the current limitations regarding the ability of ALKS vehicles to perform lateral movements.

It is widely anticipated, at least in the short term, that ALKS vehicles will not be able to perform a Minimum Risk Manoeuvre that involves sufficient lateral movement to

take the vehicle out of a live traffic lane without manual engagement from the human driver. Instead, it is proposed that an ALKS vehicle simply come to a controlled stop within a live traffic lane where a driver fails to respond to a transition request. Such a manoeuvre risks causing a collision, as well as traffic chaos, and is fundamentally unsafe.

The test should read: 'A vehicle is not being 'controlled' by an individual if it is capable of bringing itself to a safe and controlled stop at any time, not in a live traffic lane, and if the individual controls none of the following:

1. Longitudinal dynamics (speed, acceleration, braking, gear selection);
2. Lateral dynamics (steering)'

Do you agree with our preliminary assessment of how ALKS meets the criteria set out in Annex A?

No

Why?

We refer to our response to the previous question.

RESPONDING TO AN ENFORCEMENT VEHICLE

How do you think ALKS will detect and respond to a police or other enforcement vehicle approaching from behind signalling for the vehicle to pull over?

We are very concerned about the fact that current ALKS regulations do not require rear-facing sensors. This, as the call for evidence points out, is a problem when ALKS-equipped vehicles face the task of detecting and responding to police and other enforcement vehicles approaching from behind and signalling to the vehicle to pull over.

Firstly, the lack of mandatory rear-facing sensors means there is no guarantee that an ALKS-equipped vehicle will detect such a vehicle. This cannot be allowed to happen.

Secondly, assuming the ALKS-equipped vehicle does detect the enforcement vehicle, the lack of an ability to engage in lane changing movements means ALKS will have to engage in a transition event. If the driver fails, for whatever reason, to take back control of the vehicle, the ALKS-equipped vehicle will come to a stop in the lane of traffic, thus forcing the enforcement vehicle to also come to a stop. This will potentially put the driver of the enforcement vehicle at risk of suffering an injury as a result of a collision from behind. Should the driver of the enforcement vehicle exit his/her vehicle to check on the condition of the ALKS car driver, s/he will be put in harm's way as s/he has to walk in the middle of traffic. It will also, in all likelihood, cause a localised traffic jam.

Aside from creating any number of potential harmful repercussions, this also presents legal challenges. Section 163 of the Road Traffic Act 1988 states that: '*A person driving a mechanically propelled vehicle on a road must stop the vehicle on being required to do so by a constable in uniform or a traffic officer... If a person fails to comply with this section he is guilty of an offence.*' It needs to be made clear what would happen if an ALKS-driven vehicle failed to stop in the same circumstances. It seems wrong for drivers of ALKS-equipped vehicles to be open to a finding of guilt, especially if they are allowed to disengage from the driving task. On the other hand, it seems equally perverse for drivers to avoid a finding of guilt by refusing to accept the need for takeover in a transition event.

The above scenario is bad enough, but of greater concern is the possibility that an ALKS-equipped vehicle cannot detect or hinders the progress of an ambulance, fire engine or other emergency vehicle, as is required by rule 219 of the Highway Code. This scenario could result in an ALKS-equipped vehicle increasing the time until someone arrives at hospital or a fire department arrives at a burning building. This cannot be allowed to happen.

These are yet further reasons why ALKS needs to be classified as ADAS, and why drivers need to stay engaged in the act of driving even when ALKS is activated.

Do you think that 10 seconds is fast enough in the foreseeable circumstances to comply with the rules on responding to enforcement vehicles?

No

If not, why?

The answer to this question depends on a number of factors:

- the amount of training that the ALKS driver has received,
- the level of experience the ALKS driver has with the ALKS system s/he is using,
- the level of distraction the ALKS driver has been allowed to achieve, and
- other external factors such as speed, weather and how the emergency vehicle has signalled its presence

In a 2013 study, researchers found that resumption of manual control (in terms of steering behaviour in particular) continued to be erratic for up to 40 seconds after the transfer of control.³⁵

The simple answer to this question is that no one knows the answer, because there are no real world data.

This is why real world testing is crucial.

If the driver is not involved in the driving process, because s/he is allowed to engage in secondary tasks, s/he will not have detailed knowledge of the current situation when an incident that requires his/her attention arises. Studies have made it plain that the majority of people who want automated vehicles would use the technology so that they could engage in two activities: using their mobile phones and sleeping. In either case, and especially the second, bringing drivers back into the loop so that they are able to safely resume control of the vehicle will take longer than ten seconds.

If the driver's reliable and safe response cannot be guaranteed in the very small amount of time before transition to human driving is necessary, then s/he cannot be allowed to engage in secondary tasks, and needs to be required to maintain supervision of the driving process.

Until real world testing shows that there is a minimum of risk in an ALKS transition event to a formerly disengaged driver, drivers need to stay fully engaged in the driving process and ALKS needs to be classified as ADAS.

STOPPING AFTER AN INCIDENT

³⁵ N Merat et al, 'Transition to manual: Driver behaviour when resuming control from a highly automated vehicle', *Transportation Research Part F: Traffic Psychology and Behaviour*, Vol 27, Part B (2014), pp 274-282.

How will ALKS detect a minor or low-energy collision, in order to come to a stop and alert the driver?

Do you foresee any risks should ALKS vehicles not stop for low-energy impacts?

Under s170 of the Road Traffic Act 1988, drivers have a responsibility to stop and provide information, such as insurance details, if they are involved in an accident which causes damage to another vehicle. Not stopping for a low-energy impact would mean that a vehicle that meets the ALKS requirements would not be able to comply with UK traffic rules.

If the ALKS system did not even register that the low-energy impact had occurred, would it be able to present data to assist in any civil claim?

Should a human driver in these circumstances face criminal charges for not providing information as required under s170 RTA 1988? If so, what if the driver is unaware of the accident? If motorists believe vehicles will monitor them, they are likely to pay little attention to their surroundings. This is especially true if they are permitted by law to disengage from the driving process and engage in secondary tasks.

Similar considerations apply to any suggestions that users of ALKS vehicles could be criminally liable for their vehicle's conduct whilst civil liability would be regulated under AEVA 2018 if these vehicles are listed as automated. This could lead to the perverse outcome where a driver using an ALKS vehicle fails to intervene and could be held criminally liable, yet if injured in the accident would also be entitled to claim, as a third party, against their insurer for any injuries or losses incurred.

Manufacturers have not yet demonstrated how ALKS-equipped vehicles will be able to distinguish between low-impact collisions that require a vehicle to stop (such as hitting another car or a motorcyclist who has fallen and is lying in the lane of traffic) and those collisions that will not require a vehicle to stop (such as a fallen branch).

Because of these limitations, ALKS needs to be classified as ADAS until it possesses the ability to cope with the above challenges.

READING GB ROAD SIGNAGE

How will manufacturers ensure that ALKS vehicles deployed in the UK are able to recognise signage located above the road that may be unique to the GB?

We are not aware of current systems that are capable of detecting the red X for lane closure on a smart motorway.

If an ALKS system cannot comply with the law because of technological limitations, it should not be allowed to be used on UK roads.

REGISTRATION OF AUTOMATED VEHICLES

Do manufacturers intend to offer automation as an optional package for customers at the point of purchase? Please provide details.

Yes. Automotive development has generally seen technological advancements offered as options in flagship and high-end models, and that these options then filter down through the brand's models as the years progress. It is, therefore, likely that ALKS will be optional on several models in the short- to medium-term future.

Do you have concerns about vehicles that are registered as AVs on the DVLA database but the keeper has chosen to have the functionality disabled so they are not capable of operating as an AV?

Yes

If yes, what are they?

Our primary concern is the possibility that drivers will attempt to blame automated driving systems for any collisions or violations for which they are responsible as a way of avoiding civil or criminal liability.

If drivers blame disabled automated driving systems, they could claim damages against their insurers for any injuries they sustained as a result of their own negligence. This would be a clear example of insurance fraud.

Should insurers suspect fraud, they will need to investigate claims. These investigations and the resulting claims will be expensive, and insurers will pass these costs on to policy holders. Premiums will go up.

If insurers do not know which vehicles registered as possessing automated driving systems genuinely have those systems, they will not be able to properly assess risk. Premiums will not accurately reflect the effects of AV technology on safety. Insurers could be hesitant to offer the premium discounts AV technology should provide.

Human-caused incidents that are mistakenly or fraudulently blamed on AV technology will decrease public confidence in the technology and is likely to set back progress.

Fair Delegation & Residual Responsibility

COMING TO A STOP IN LANE

Do you agree that it is appropriate to exempt the driver from prosecution – if the vehicle comes to an unjustified stop when ALKS is engaged – by creating a further exception in the Motorway Traffic Regulations?

No

If not, why?

If ALKS are to be classified as automated vehicles for the purpose of the AEVA 2018 then it would not be appropriate to leave the driver at risk of prosecution in circumstances where the vehicle comes to an unjustified stop when ALKS is engaged. In those circumstances creating a further exception in the Motorway Traffic Regulations to exempt the driver from prosecution is desirable.

However, we do not support the classification of ALKS as a vehicle automation system for the purpose of the AEVA 2018 unless it is able to perform a minimum risk manoeuvre (MRM) that is capable of taking the vehicle out of live traffic lanes in circumstances where the driver fails to re-engage further to a transition demand. In the absence of such a capability, ALKS should be classified as a driver assistance system, whereby the driver is the fall back and is required to monitor the road ahead without becoming distracted. A MRM that stops the vehicle in a live traffic lane is unsafe and risks causing collisions and chaos on the road. By definition, this

contravenes the requirements of s1.1 AEVA 2018 which requires that automated vehicles can safely drive themselves in certain circumstances.

RELYING ON THE SYSTEM

Do you agree that amending Rule 150 is sufficient to clarify that the driver may rely on the ALKS?

No

If not, why?

If ALKS are to be classified as automated vehicles for the purpose of AEVA 2018, then an amendment to Rule 150 of the Highway Code will clearly be necessary. However, the revised wording will require careful thought so as to avoid confusing consumers. Currently Rule 150 specifically mentions Motorway Assist as an example of a driver assistance system and specifies the need for the driver to remain engaged in the driving task and not to become disengaged by interacting with the vehicle's infotainment system. There is a very real risk that consumers will not appreciate the difference between Motorway Assist (driver assistance) and ALKS (automation), which risks drivers of vehicles with driver assistance systems becoming disengaged from the dynamic driving task.

As aforesaid, we do not support the classification of ALKS as a vehicle automation system for the purpose of the AEVA 2018 unless it is able to perform a minimum risk manoeuvre (MRM) that is capable of taking the vehicle out of live traffic lanes in circumstances where the driver fails to re-engage further to a transition demand. In the absence of this capability, ALKS should be classified as a driver assistance system whereby the driver is required to stay in the loop and monitor his/her surroundings. In these circumstances, there is no need to make any amendments to Rule 150 of the Highway Code.

RESPONDING TO A TRANSITION DEMAND

Do you agree that not changing the Motorway Traffic Regulations, except for unjustified stops, ensures the driver is suitably incentivised to take back control when requested?

No

If not, why?

There is a real risk that by coming out of the loop during the period of time that the ALKS is engaged and the vehicle's systems are carrying out the dynamic driving task, the driver will become disengaged entirely from the dynamic driving task, such that he/she is unable to re-engage in sufficient time to avoid the vehicle from performing a Minimum Risk Manoeuvre (MRM). A University of Utah study revealed that it can take up to 27 seconds for a disengaged driver to re-engage after using, for example, a phone.³⁶

It is highly improbable that an out-of-the-loop driver who is engaged in another activity other than the dynamic driving task (perhaps via the vehicle's infotainment system) will be thinking about the potential criminal culpability of allowing his/her

³⁶ https://unews.utah.edu/up-to-27-seconds-of-inattention-after-talking-to-your-car-or-smart-phone/?doing_wp_cron=1600361743.3461480140686035156250

vehicle to stop in a live lane of traffic. By definition, a distracted driver will be focused on something else.

Moreover, rather than allowing drivers to become disengaged from the driving process, government needs to inform drivers of the need for them to stay actively engaged. This is especially true as driver assist systems become more capable. There are examples of drivers of SAE Level 2 assisted vehicles behaving recklessly, and placing over-reliance on the vehicle's systems. For example, a Tesla driver was prosecuted for switching to the passenger seat on the M1 motorway while his vehicle was operating in 'autopilot' mode.³⁷ The government needs to prevent this from becoming accepted behaviour.

Do you agree that The Highway Code should be changed so that drivers of ALKS must be alert to a transition demand?

Yes

If not, why?

As aforesaid, a disengaged driver is, in reality, unlikely to remain alert to a transition demand.

Do you think that amending The Highway Code is sufficient to communicate to drivers their responsibility?

No

If not, why?

Simply relying on the Highway Code as a means of communicating a driver's responsibilities regarding transition demands is not sufficient. In reality, most drivers will not read / re-familiarise themselves with the Highway Code with any regularity. Driver education regarding the responsibility to be alert to a transition demand should be proactive, rather than passive, and requires a multi-faceted approach, using various types of media, and engaging a number of key stakeholders including government, vehicle manufacturers and insurers.

Performing Other Activities

OTHER ACTIVITIES

Do you think the driver should be allowed to perform other activities when ALKS is activated if they must only be ready to respond to a transition demand?

No

Why?

We refer to our responses to questions 6 and 7 of the Law Commission's Preliminary Consultation on Automated Vehicles in which we warned against the risks associated with allowing a driver to become distracted by engaging in other activities where the

³⁷ <https://www.bbc.co.uk/news/uk-england-beds-bucks-herts-43934504>

vehicle's systems are not capable of bringing the vehicle to a safe and controlled stop³⁸.

Unless and until ALKS is capable of performing a Minimum Risk Manoeuvre that takes the vehicle out of any live traffic lanes should the driver fail to respond to a transition demand, it should be classified as a driver assistance system, and not an automated system for the purpose of AEVA 2018. As such, the driver should not be allowed to perform other activities when ALKS is activated, to avoid becoming disengaged and, in turn, the risk of failing to respond to a transition demand.

As aforesaid, a Minimum Risk Manoeuvre that simply stops the vehicle in a live traffic lane is fundamentally unsafe, as it risks causing collisions and/or traffic chaos.

What other activities do you think are safe when ALKS is activated?

Unless and until ALKS is capable of performing a Minimum Risk Manoeuvre (MRM) that takes the vehicle out of a live traffic lane, the MRM is not a safe one for reasons aforesaid. When ALKS is activated the driver should remain engaged in the dynamic driving task.

Do you think that the driver should be allowed to undertake other activities if ALKS is not listed under AEVA?

No

If not, why?

Where ALKS is not listed under the AEVA it is, by definition a driver assistance system with the human as the fall back, rather than the AV system. Therefore it is not safe for the human to become wholly disengaged from the dynamic driving task, and to become distracted by other activities.

If yes, what activities could they safely perform?

Not applicable.

THE INFOTAINMENT SYSTEM

Do you agree that an exception should be added to enable the use of the infotainment system for activities other than driving?

No

If not, why?

We refer to our response to the above question: 'Do you think the driver should be allowed to perform other activities when ALKS is activated if they must only be ready to respond to a transition demand?'

Are there any activities you consider unsafe to perform through the infotainment system?

³⁸ <https://www.dacbeachcroft.com/media/2321014/law-com-preliminary-consultation-on-avs-a-response-from-dac-beachcroft-llp.pdf>

Yes

If yes, what are they?

Provided the vehicle can perform a suitable MRM which involves bringing it to a stop away from any live traffic lanes then, in principle, a driver who is temporarily disengaged from the Dynamic Driving Task (DDT) should be free to carry out other activities, which may involve consumption of news, social media or entertainment via the vehicle's infotainment screen.

However, in view of the pace of technological changes, we urge the government to consider the medium term developments. The list of activities that one may engage with via a vehicle's infotainment system are likely to expand dramatically over the course of the next few years, some of which may be deemed unsafe. It is therefore vital that decisions taken now are future-proofed insofar as is possible.

Use of ALKS up to 70mph

Do you agree with this approach?

No

Why?

The proposed limit of 60kmh (37mph) means that, in reality, ALKS will only be used in very specific and limited circumstances (i.e. during motorway traffic jams / waves). Whilst extending the use of ALKS up to 70mph would make it infinitely more useful to consumers, we would urge caution unless and until real world testing of ALKS proves the concept. We know that the technology being used to deliver ALKS is currently not perfect. Adopting a safety first approach, we recommend an incremental adoption of ALKS up to 37mph initially.

We would not, in any event, advocate the extension in use of ALKS up to speeds of 70mph unless the vehicle's systems are capable of performing a Minimum Risk Manoeuvre that is capable of performing a lateral movement, in order to take it out of any live traffic lanes. It goes without saying that it is wholly unsafe for a vehicle to stop in a live motorway traffic lane when other traffic is travelling at speeds of up to 70mph.

CONCLUDING REMARKS

Do you have any other comments you'd like to make?

As we stated at the beginning of this response, we believe that ALKS, if properly introduced and regulated, could improve road safety in Britain and be a significant stepping stone towards full automated driving. It is not, however, sufficiently advanced to be classified as an automated driving system at present. The technology available is inadequate to guarantee the safety of road users without driver supervision.

We strongly urge the government to exercise due caution by encouraging the use of ALKS whilst recognising that drivers cannot be allowed to come 'out of the loop' entirely, nor engage in secondary activities that distract from the dynamic driving

task. Drivers need to be responsible for the performance of their vehicles until the technology has improved to the point that safe fully automated driving is possible.

Whilst the government's desire to find an early iteration of automated driving for the purpose of the AEVA is to be commended, we urge it not to abandon the safety first approach which has been the cornerstone of developments in vehicle technologies to date. To do so risks causing, rather than reducing, collisions. This, in turn risks undermining consumer confidence and setting back the mass uptake of automated vehicles by years.