

**Response to Law Commissions' third consultation on Automated Vehicles
(Law Commission Consultation Paper 252; Scottish Law Commission Discussion
Paper 171)**

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What is your name?

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What is the name of your organisation?

Oxbotica

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

Response on behalf of organisation

CHAPTER 4: SELF-DRIVING AND HUMAN INTERVENTION

Consultation Question 1 (Paragraph 4.114)

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?

[Respondents chose from the following options: yes; no; other.]

Other

We agree with point 1) and 2);

We disagree with point 3) - "Safe enough" is a broad concept which leaves room for interpretation and cannot be tested. "Safe enough" also suggests that there is some sort of progressive linear scale of safety, and than an ADS should reach a certain point on that scale; in reality however, all ADS will come with different safety attributes depending on

ODD and function, and additionally they will all occasionally likely make errors that would appear to be simplistic to a human.

In order to be classified as an AV, there must be a test: a specific set of technical requirements that the ADS will have to meet even when the user-in-charge does not intervene.

Since these are technical requirements for the system they should be captured under new regulation. As such the requirements should be testable so the technical authorities can certify compliance.

The regulation should specify test cases and validation criteria to demonstrate that the system is capable of detecting external and circumstantial events and internal vehicle failures that could affect the performance of the dynamic driving task. In these cases, the system should still be able to compensate for malfunctions or external factors and continue performing the dynamic driving task, even if the user-in-charge does not intervene, in a way that will mitigate or avoid collisions and reduce the risk.

Consultation Question 2 (Paragraph 4.115)

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

Yes, we believe that automated vehicles should be designed to improve people's lives.

Accessibility should be one of the benefits that AV technologies can offer.

People with hearing loss who are currently able to drive normal vehicles should find AVs an attractive alternative which will help to reduce the workload and which will introduce alert mechanisms that are adapted to their needs. Additional design measures should be considered for AVs to include people with disabilities and users of all ages to increase their mobility and autonomy and to ensure that their ability to drive will no longer be an obstacle to using a vehicle.

CHAPTER 5: HOW SAFE IS SAFE ENOUGH?

Consultation Question 3 (Paragraph 5.118)

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?

[Respondents chose from the following options: yes; no; other.]

Yes

Yes, in the same way that vehicle type approvals are issued by the Vehicle Certification Authority on behalf of the Secretary of State for Transport under the UN and UK type approval schemes.

Consultation Question 4 (Paragraph 5.119)

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.

[Respondents chose from the following options: as safe as a competent and careful human driver; as safe as a human driver who does not cause a fault accident; overall, safer than the average human driver; none of the above.]

None of the above

None of the above standards will be applicable in full to a legal test because they cannot be accurately measured. However it is important to note that while an ADS should be safer than an average human driver - not least because it will be paying attention 100% of the time - that there may be new forms of accidents that don't occur today - some of which may be common sense to humans.

Finally, this discussion should take place in the context of environment and location. For example, it is possible to have an AV that is the world's safest driver in an underground tunnel, but is unable to cope with a simple car park environment - purely because it has been optimised for one place and not sub-optimised as a general purpose solution that should work anyplace, anytime and anywhere in the world.

Consultation Question 5 (Paragraph 5.120)

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

Similarly to how ADAS systems are regulated today, requirements related to risk management and how risk can be reduced to ALARP should be included in AV technical regulations. AV regulators should take into consideration the state of the art, best practices, and learning and findings from the development phase. The focus should be moved from individual vehicles towards statistical models looking at the increased safety impact of growing fleets of AVs.

ADSEs should be allowed by regulation to deploy frequent software updates to enhance safety and performance. Automated vehicles can be made safer by being able to continuously learn, and then share that learning with other AVs within their own ADSE vehicle fleet via regular software updates.

Consultation Question 6 (Paragraph 5.121)

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

In our opinion, new technical regulation should include requirements for the ADS to meet equality for all users. The regulation itself should specify and give examples of evidence that regulators could request, such as design documentation, test cases and validation criteria. Regulation should be inspired and driven by the overall synergetic safety benefit of a fleet of AVs rather than just at an individual level, taking into account the impact on safety for all road users.

CHAPTER 7: ASSESSING SAFETY PRE-DEPLOYMENT

Consultation Question 7 (Paragraph 7.99)

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?

[Respondents chose from the following options: yes; no; other.]

Other

We disagree with point (2): Rather than expecting manufacturers/developers to explain why they believe their safety case shows that the ADS is safe, they should be required to submit evidence and documentation to show that the safety case meets specific requirements.

A clear distinction should be made between the content of the safety case that will be expected from regulators to demonstrate that the ADS is safe and what is currently expected to be included in the safety case of a TA, according to Government Guidance (2019 CCAV's Code of Practice) and recommendations from the various BSI Public Available Specifications.

We also have some notes on aspects of point (3):

(3) (b) The safety case can only be audited if the specific technical requirements discussed above are made explicit and can be used for certification.

(3) (d) The submitting organisation should provide any required test results and conduct witnessed tests if appropriate. The safety case and test environment should be proportional and relevant to the operational design domain (ODD) in which the ADS is expected to operate.

Consultation Question 8 (Paragraph 7.100)

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 agree. However, the findings from the consultation should be compared to data from research and previous applications.

In principle, we support the regulator defining "how safe is safe" and would expect an acceptable level of failure to be defined from such scenario testing. We would support only "whole vehicle testing" rather than partial-vehicle simulation testing, on the basis that simulation introduces far too many shortcuts that are not realistic in practice. We recommend vehicle testing to be used where possible and simulation to be complementary for challenging scenarios and edge cases.

CHAPTER 8: INITIAL APPROVALS AND CATEGORISATION – PROPOSALS

Consultation Question 9 (Paragraph 8.17)

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?

[Respondents chose from the following options: yes; no; other.]

No

In order to promote continuous development we propose allowing approved CAV Developer Companies and Trialling Organisations to use their systems for development and trials, rather than an approach that is myopic about single-system approval. During development, these systems will be constantly evolving - sometimes iterating to a new software version every day - and we would encourage this as part of a move towards continuous improvement of safety.

We propose that Developers who are not yet prepared to deploy their system in the market - because it is still under development - to be exempt from this regulation and instead subject to the existing Government Guidance from the CCAV's Code of Practice, and recommendations from BSI PASs, such as PAS 1881.

Consultation Question 10 (Paragraph 8.25)

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?

[Respondents chose from the following options: yes; no; other.]

Other

We support the idea of a national scheme to approve ADSs and to give the option to apply for either the UNECE or the local type approval.

The national scheme should take into account approvals for subsets of roads and other limitations according to the ODD, such as operating speeds.

In addition, we believe that some sort of exemption should be made available to developers who cannot apply for an ADS type approval because their systems are still under development, such as an AV licencing scheme. This will enable development and continuous improvement, while removing the need to seek approval for every single software version and system change.

Consultation Question 11 (Paragraph 8.43)

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?

[Respondents chose from the following options: yes; no; other.]

Other

We agree with points (1) and (2).

We disagree with points (3) and (4): In practice, the ADS approval scheme will have a direct impact on the whole-vehicle type approval. Compatibility between the ADS and the in-built vehicle systems will be difficult to determine. We recommend that approved ADSs should only be fitted to dedicated vehicles that cannot be registered as normal series production vehicles. A national registration scheme for ADS-dedicated vehicles should be considered.

Consultation Question 12 (Paragraph 8.44)

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.

The appeal process would not be suitable for an ADS. This kind of system will need to undergo constant changes and software updates in order to include further safety and performance enhancements. Developers and manufacturers should be allowed to demonstrate compliance as part of a continuous improvement process without paying unnecessary fees that could be a discouraging barrier for development.

Consultation Question 13 (Paragraph 8.71)

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?

[Respondents chose from the following options: yes; no; other.]

Other

Points (1) & (2): The classification should specify the ODD. For example, categorisation of a shuttle with a max speed of 15mph will be very different to a passenger car which can drive autonomously on the motorway at 70 mph.

Points (3) & (4): The ADSE should apply for a specific classification. The regulator should approve if the application meets the criteria.

Point (4) (c): We disagree with this point. As written, this requirement would potentially place an unfair financial burden on smaller AV developers, versus existing, much larger, Tiers 1s and OEMs. We propose instead that the ADSE should be responsible for acquiring appropriate insurance.

Consultation Question 14 (Paragraph 8.77)

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?

[Respondents chose from the following options: yes; no; other.]

Other

Regulation should contemplate the fact that software changes can easily improve the performance of an automated driving system, and that this can happen at a rapid pace. Any regulatory framework should have inbuilt flexibility to allow for this continual development.

The capabilities of a self-driving vehicle for a particular ODD can significantly change over a short period of time, so a regular binary certification scheme would not work here.

Regulation needs to differentiate between ADS-capable vehicles used for development and production vehicles. We support the concept that ADSEs should have regulatory exemptions to be able to continuously develop, trial and iterate software to maximise safety and performance enhancements.

Consultation Question 15 (Paragraph 8.78)

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?

We believe that categorisation of an ADS should be defined by the ADSE and approved by the regulator. The approvals should be "pass/fail". There should be an appeals process against decisions that are disputed. In addition, unnecessary fees should be removed to encourage the ADSE to demonstrate constant improvement as part of the application process.

Consultation Question 16 (Paragraph 8.83)

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 disagree. Limiting deployment numbers could significantly disadvantage early movers and undermine the viability of certain business models. It also seems counterproductive to limit vehicle numbers to gather safety data, given that current statistics suggest fatalities occur every billion miles.

Additionally, in practice regulators will not have the capacity to monitor the performance of multiple fleets of AVs over time.

CHAPTER 10: ASSURING SAFETY IN USE

Consultation Question 17 (Paragraph 10.82)

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?

[Respondents chose from the following options: yes; no; other.]

Yes

Any enhanced responsibilities and powers should be proportional to the level of expertise and experience of the regulators. The proposed scheme should ensure that regulators are capable of hiring and retaining staff who are experts in AV software, especially Machine Learning and Artificial Intelligence.

Consultation Question 18 (Paragraph 10.83)

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?

[Respondents chose from the following options: yes; no; other.]

Other

(1) & (2) The type and source of this data needs to be explicitly defined. What data is being requested, and where is it expected to come from? Any data-sharing requirements should not cause an increased computational burden for the ADSE. It is very expensive for an AV to continuously log data, and impractical to upload it, even over 5G.

The data requested by regulators through this enhanced scheme should be consistent with what is requested by international regulation.

(3) We agree with (a) and (b).

We disagree with (c) - this should be the role of the vehicle manufacturer or service provider.

Consultation Question 19 (Paragraph 10.84)

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.)

Even after deployment, software updates for ADS will happen on a regular basis and they will constantly introduce safety and performance enhancements. These updates should not require the ADSE to return to the type approval. Regulators should establish criteria to allow regular software updates that introduce improvements without the need of additional approvals. It is important to avoid additional bureaucratic burden for ADSEs and regulators, and promote development through constant improvement.

(2) The scheme should also deal with cybersecurity. Cybersecurity and software updates are tightly coupled. Updates require security and some updates would be solely for security purposes. If these two elements are managed by different schemes there is a) potential for security vulnerabilities to be opened due to potentially differing requirements, and b) extra administrative burden on the ADSE to potentially support another approval authority.

Consultation Question 20 (Paragraph 10.100)

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?

[Respondents chose from the following options: single body; separate bodies; other.]

Separate bodies

To keep a level of independence, we believe that regulators and the authorities responsible for assuring safety during use should be two separate bodies.

Consultation Question 21 (Paragraph 10.101)

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 suggest the creation of an Advisory Board with representatives from the ADSEs and experienced developers.

CHAPTER 11: INVESTIGATING TRAFFIC INFRACTIONS AND COLLISIONS

Consultation Question 22 (Paragraph 11.24)

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?

[Respondents chose from the following options: yes; no; other.]

Yes

Yes, we agree.

Consultation Question 23 (Paragraph 11.53)

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?

[Respondents chose from the following options: informal and formal warnings; fines; redress orders; compliance orders; suspension of authorisation; withdrawal of authorisation; recommendation of attendance at a restorative conference.]

Informal and formal warnings, Fines, Redress orders, Compliance orders, Suspension of authorisation, Withdrawal of authorisation, Recommendation of attendance at a restorative conference

We have no strong opinion. Perhaps this should be coordinated by the Traffic Enforcement Centre.

Consultation Question 24 (Paragraph 11.54)

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?

[Respondents chose from the following options: yes; no; other.]

Other

(1) In terms of discretion over monetary penalty, it would be acceptable for the regulator to set a tariff for penalties subject to an appeals process to the courts.

However, any such tariffs should be set at levels that support and encourage innovation rather than be excessively punitive.

(2) We anticipate that this question suggests a regime similar to the HSE, who may issue an improvement or enforcement notice requiring steps to be taken to prevent future similar incidents, where the breach was particularly serious. The difficulty here is having the expertise within the regulator to determine those steps and enforce them. A better approach would be to require the ADSE to demonstrate within a certain time frame that they have taken appropriate steps to comply with the relevant standard after a breach.

Consultation Question 25 (Paragraph 11.69)

We provisionally propose that a specialist incident 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?

[Respondents chose from the following options: yes; no; other.]

Yes

An independent collision investigation unit with trained personnel could provide huge insight into how to reduce collisions. Especially where there is a novel pattern, for example, where oddities in the road design could have been a contributing factor across systems from multiple ADSEs.

Consultation Question 26 (Paragraph 11.82)

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?

[Respondents chose from the following options: yes; no; other.]

Yes

Yes, with representatives of ADSEs and experienced developers.

Consultation Question 27 (Paragraph 11.83)

We welcome views on:

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

(1) We believe the forum should consider:

- Suitability of current and future regulation for AVs;
- Sharing experience with practical examples;
- Defining criteria to measure how safe is 'safe enough' during and after deployment;
- How to manage software changes and approvals;
- How to encourage development and identification of areas of improvement for safety and security.

In addition, we believe it would be beneficial for the forum to keep a watching brief on similar initiatives in other countries and seek loose alignment, in recognition that most ADSEs will have international customers.

(2) Representatives from the ADSEs, experienced developers, ADS regulators, OEMs, insurers and traffic investigators.

(3) An advisory group that meets on a regular basis and records notes and resolutions that are made available to the general public for comments and recommendations.

CHAPTER 12: THE USER-IN-CHARGE

Consultation Question 28 (Paragraph 12.24)

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

(1) should be defined as an individual in 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?

[Respondents chose from the following options: yes; no; other.]

We agree with point (1).

For (2) we should consider also the case where the driver engages the ADS in a situation where a traffic infraction is already in process or when it was inappropriate to do so - for example, engaging the ADS while above the speed limit, or where the vehicle is already parked illegally.

Consultation Question 29 (Paragraph 12.37)

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?

[Respondents chose from the following options: yes; no; other.]

Yes

Yes, although there should be due consideration for any medical-related events. There should be some common definition of how a transition demand is communicated, such that UICs cannot misinterpret their responsibilities. Another item that should also be considered is the appropriate time during the transition demand where the driver should take over. For example, if the ADS is about to take preliminary avoiding action before needing to transition some seconds later, the driver should not reflexively resume control and make the situation worse.

Consultation Question 30 (Paragraph 12.45)

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.

Yes, this seems reasonable in conjunction with an approved driving instructor. We assume that the driving instructor will have had training in such a situation and will be able to determine when the learner driver has sufficient capability to act as the UIC.

Consultation Question 31 (Paragraph 12.53)

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?

[Respondents chose from the following options: yes; no; other.]

Yes

Yes, we agree.

Consultation Question 32 (Paragraph 12.59)

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

Do you agree?

[Respondents chose from the following options: yes; no; other.]

Yes

Yes, we agree.

Consultation Question 33 (Paragraph 12.60)

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.

The information should be made available to passengers in advance.

Consultation Question 34 (Paragraph 12.66)

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.

[Respondents chose from the following options: yes; no; other.]

Yes

Yes in principle but this will be very difficult to establish in practice.

Consultation Question 35 (Paragraph 12.94)

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?

[Respondents chose from the following options: yes, the user-in-charge should be liable for all offences not arising from the dynamic driving task; the user-in-charge should be liable for some but not all of the offences listed; no, the user-in-charge should not be liable for any offences; other.]

Not Answered

Yes, we agree. The user-in-charge should be liable for all offences not arising from the dynamic driving task, included those listed in the question.

Consultation Question 36 (Paragraph 12.95)

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?

[Respondents chose from the following options: yes; no; other.]

Yes

Yes, including enabling software over the air (SOTA) updates from the ADSE or OEM.

CHAPTER 13: REMOTE OPERATION: NO USER-IN-CHARGE VEHICLES

Consultation Question 37 (Paragraph 13.67)

We provisionally propose that:

(1) where an individual is exercising latitudinal 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?

[Respondents chose from the following options: yes; no; other.]

Yes

We agree with point (1).

(2) Yes. The nature of inputs that are allowed to remotely assist the ADS when it is in control of the dynamic driving task should be established by regulation for self-driving vehicles.

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”.

The definition of the self-driving vehicle provided in the AEV Act 2018 should be more specific to include the conditions for remote monitoring and to allow assistance when

needed, e.g., when there has been an incident, the attributes of the ODD suddenly change, the AV comes across an unexpected situation, etc.

Consultation Question 38 (Paragraph 13.86)

We provisionally propose that:

(4) 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);

(5) 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;

(6) 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?

[Respondents chose from the following options: yes; no; other.]

Other

We agree with points (4) and (5).

(6) We disagree. Exemption for developers is needed.

Consultation Question 39 (Paragraph 13.92)

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.

With a distinction for developers, who will need an exemption for NUIC operation and who already are expected to have a safety case according to Government Guidance (COP).

Consultation Question 40 (Paragraph 13.108)

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?

[Respondents chose from the following options: yes, a licensed operator should be subject to all the listed duties; a licensed operator should be subject to some but not all of the listed duties; no, a licensed operator should not be subject to any of the listed duties; other.]

Yes, a licensed operator should be subject to all the listed duties
Yes, generally.

(5) ‘...(as enforced by the Highway Code)’ - It is traffic law rather than regulator

Consultation Question 41 (Paragraph 13.109)

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?

[Respondents chose from the following options: yes; no; other.]

Yes

Yes, that is a reasonable option for privately owned AVs.

Consultation Question 42 (Paragraph 13.116)

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

An accessibility panel with representatives from relevant groups, including vulnerable users, would be helpful.

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?

[Respondents chose from the following options: yes; no; other.]

Yes

Yes, we agree.

Also, as mentioned above, an accessibility panel with representatives from relevant groups, including vulnerable users, would be helpful.

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

Perhaps two or three times a year to keep pace with new developments and review similar initiatives from other countries.

Consultation Question 43 (Paragraph 13.133)

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

We have no strong opinion.

CHAPTER 14: CRIMINAL OFFENCES BY ADSES AND THEIR SENIOR MANAGERS

Consultation Question 44 (Paragraph 14.107)

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?

[Respondents chose from the following options: yes; no; other.]

No

The sanction of a criminal offence, and prosecution of an individual, is a very serious one regarding omission of information for classification of self-driving. This is particularly the case where a) the technology is continually developing, b) it is not clear what is classified as 'safety-relevant information' in this context, and c) the defendant could be an individual who relies upon a team of engineers to supply them with accurate information. It is not practicable to expect the individual to know each piece of information relating to every piece of technology.

It is also very important to define what is classified as 'safety-critical information' and to set minimum requirements for this at a high level. This term is very wide - everything concerning the operation of a vehicle on a public road could be construed as safety-relevant. For example, accidents usually occur because of the confluence of two or more low-likelihood events, and it would be impractical to provide information on all possible low-likelihood events and how they might interact with one another.

Consultation Question 45 (Paragraph 14.108)

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.

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.

Offence C: offences by senior management

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

- (3) to have been committed with the consent or connivance of an officer of the body corporate; or
- (4) 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.

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:

- (5) related to an increased risk of a type of adverse incident; and
- (6) an adverse incident of that type occurred; and
- (7) 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.

Offence A:

(1) The information that the regulator requires should be clear and not open to any interpretation. If the information provided is not required, then the regulator should dismiss it from the application.

(2) This should be amended to 'knowingly provide...'

Unlimited fines pose a disincentive to innovation. A tariff of penalties reflecting the seriousness of an offence is preferable, taking into account the fact that many small businesses are engaged in developing this technology and may be unable to continue to do so in an environment of unlimited fines. Any tariff of penalties should reflect the overall benefit to society (enhanced road safety) arising from the technology.

Offence B:

(1) In this case the regulator should disqualify the application. There is no need for a criminal offence.

(2) This should be amended to 'knowingly provide...'. An unlimited fine does not work in practice. We recommend a cap.

Offence C:

Such serious penalties should only apply to the offence of provision of false or misleading information - not the failure to provide information. It is clear that while AVs may reduce the number of accidents, they may also cause new categories of low-occurrence accidents which are accepted by society as part of the trade-off. It would be unfair to prosecute the ADSE, or officers of the ADSE, for such low-occurrence accidents simply because their analysis did not cover every possible eventuality.

Offence D:

(5), (6) & (7): As stated for Offence C above, we believe that it is impractical to require ADSEs to generate analysis covering every possible low-likelihood eventuality. This will only expand as AV volumes grow and low probability incidents become statistically more likely.

Consultation Question 46 (Paragraph 14.109)

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.

In principle, yes, but in practice it is likely to become a discussion about whether a particular failure mode was properly sign-posted amongst the other thousands of potential failure modes. The standards for presenting such information should be set by the regulator.

CHAPTER 15: NEW WRONGFUL INTERFERENCE OFFENCES

Consultation Question 47 (Paragraph 15.10)

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?

[Respondents chose from the following options: yes; no; other.]

Yes

Yes, we agree.

Consultation Question 48 (Paragraph 15.11)

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

Yes, we agree.

Consultation Question 49 (Paragraph 15.53)

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?

[Respondents chose from the following options: yes, in both England and Wales and Scotland; in neither jurisdiction.]

Yes, in both England and Wales and Scotland

Yes, in all jurisdictions.

Consultation Question 50 (Paragraph 15.55)

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?

[Respondents chose from the following options: yes; no; other.]

Yes

Yes, we agree.

Consultation Question 51 (Paragraph 15.62)

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.

Yes, we agree

CHAPTER 16: CIVIL LIABILITY

Consultation Question 52 (Paragraph 16.24)

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?

[Respondents chose from the following options: yes; no; other.]

Yes

Yes, we agree.

Consultation Question 53 (Paragraph 16.32)

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

Do you agree?

[Respondents chose from the following options: yes; no; other.]

Yes

Yes, we agree.

Consultation Question 54 (Paragraph 16.47)

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?

[Respondents chose from the following options: yes; no; other.]

Yes

Yes, we agree.

CHAPTER 17: ACCESS TO DATA

Consultation Question 55 (Paragraph 17.65)

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?

[Respondents chose from the following options: yes; no; other.]

No

We disagree with point (1): Location is considered personal data that should not be recorded. For this reason it is excluded from the list of data required by UNECE regulation for EDR/DSSAD.

In addition, recording where and when an ADS is activated and deactivated will only serve as a confirmation that a vehicle was in a certain place at a certain time, and not that it was involved in an incident. It is also worth noting that GPS data is notoriously unreliable, especially if required on start-up, where the GPS may still be searching for satellites, or perhaps where the controlling system is looking to corroborate base location with other local features. And GPS data simply does not exist in some scenarios – for example underground car parks and urban canyons. More importantly, not all AVs use GPS, and not all AVs actually know their location in an absolute frame (i.e., GPS coordinates). Insisting on the recording of location will place a significant and unnecessary burden on those ADSEs that have chosen not to use GPS.

(3) We disagree., It is not clear what the benefit of collecting generic data would be. There would be significant public concern about privacy if location data was collected without specific rationale - for example following an incident. The examples given suggest that an authority (perhaps the police) would be able to search databases to identify which vehicles were in a particular place at a particular time. This level of state scrutiny will undoubtedly cause much public concern, and an ability to retrospectively track users is likely to act as a disincentive to the AV industry.

Consultation Question 56 (Paragraph 17.71)

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?

[Respondents chose from the following options: yes; no; other.]

Other

Disclosing the specific location of individual vehicles tied to specific owners to insurance companies is likely to create a number of GDPR issues, as well as privacy concerns. For

example, the location of a vehicle close to an incident, but not involved in the incident, could be disclosed to multiple agencies and then highlighted to the vehicle owner and associates, which would create a number of privacy concerns.

Consultation Question 57 (Paragraph 17.81)

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?

[Respondents chose from the following options: yes; no; other.]

No

We disagree. The UNECE regulation on EDR/SSDA specifies that the data should only be stored for 6 months. This is a requirement for hardware and software.

The local regulation should be consistent with the international standards

Consultation Question 58 (Paragraph 17.95)

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?

[Respondents chose from the following options: yes; no; other.]

No

- (1) We disagree. Data access parameters should be part of a regulatory standard.
- (2) We disagree. The whole concept seems unworkable from a GDPR perspective. The regulator should specify exactly what systems the ASDE should have in place.