

Scottish Law Commission – Automated Vehicle Consultation

Response by SEStran, February 2019

Link to Consultation Paper:

https://www.scotlawcom.gov.uk/files/8315/4166/7851/Joint_Consultation_Paper_on_Automated_Vehicles_DP_No_166.PDF

CHAPTER 3: HUMAN FACTORS

A new role in driving automation: the “user-in-charge”

Consultation Question 1 (Paragraphs 3.24 - 3.43):

Do you agree that:

- (1) All vehicles which "drive themselves" within the meaning of the Automated and Electric Vehicles Act 2018 should have a user-in-charge in a position to operate the controls, unless the vehicle is specifically authorised as able to function safely without one?
- (2) (2) The user-in-charge:
 - a. must be qualified and fit to drive;
 - b. would not be a driver for purposes of civil and criminal law while the automated driving system is engaged; but
 - c. would assume the responsibilities of a driver after confirming that they are taking over the controls, subject to the exception in (3) below?
- (3) If the user-in-charge takes control to mitigate a risk of accident caused by the automated driving system, the vehicle should still be considered to be driving itself if the user-in-charge fails to prevent the accident.

- (1) SEStran agrees that all vehicles which drive themselves within the meaning of the Automated and Electric Vehicles Act 2018 should have a user-in-charge in a position to operate the controls, unless the vehicle is specifically authorised as able to function safely without one. In addition, it is essential that clear rules are set out for the authorisation of vehicles that can safely function without a user-in-charge. The threshold for such authorisation would need to be sufficiently high to protect road safety. It is SEStran’s view that it is better to err on the side of caution than to potentially compromise road and passenger safety.
- (2) SEStran agrees that the user-in-charge must be qualified and fit to drive to safely take back control as a driver when required to do so. The user-in-charge would not be a driver for the purposes of civil and criminal law while the automated driving system is engaged, but will assume responsibilities of a driver after confirming that they are taking over the controls. It is necessary to have this clear distinction to avoid the lines of responsibility becoming blurry.
- (3) SEStran agrees that in such a situation, the vehicle should still be considered to be driving itself if the user-in-charge fails to prevent the accident, because the responsibility of driving lies with the vehicle using the automated driving system.

Consultation Question 2 (Paragraph 3.45):

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

SEStran believes that the label ‘user-in-charge’ properly conveys its intended meaning of describing the person who is responsible for taking over the control of the vehicle when the automated driving system stops. The label reflects the appropriate level of responsibility as being ‘user-in-charge’ reflects a higher level of responsibility than being a mere ‘user’ of the automated vehicle. At the same time,

however, the ‘user-in-charge’ should not be considered as the ‘driver’ for the purposes of civil and criminal law while the automated driving system is engaged. The term ‘user-in-charge’ therefore best reflects the role of the person who will be in charge to take over from the automated driving system when required to do so.

Consultation Question 3 (Paragraphs 3.47 - 3.57):

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

It would be desirable for it to be a criminal offence for a user-in-charge who is subjectively aware of a risk of serious injury to fail to take responsible steps to avert that risk. However, it would likely be extremely hard to establish whether someone was indeed subjectively aware of a risk of serious injury. It raises the question of whether someone could and should have known of a potential risk, and whether it had a duty or responsibility to act. It blurs the lines between driver who is responsible in civil and criminal law and user-in-charge, and manufacturer who is responsible for vehicle and automated driving system. For that reason, it would seem necessary to strictly distinguish responsibilities between the driver, the user-in-charge, and the manufacturer who is responsible for the well-functioning of the automated driving system. Again, high standards should be put in place for the authorisation of vehicles that are able to safely function without a user-in-charge. While it is desirable that the user-in-charge interferes when he becomes aware of a risk of serious injury, it is the automated driving system as the ‘driver’ that holds the responsibility of averting such a risk.

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

Consultation Question 4 (Paragraphs 3.59 - 3.77):

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

No comment.

Consultation Question 5 (Paragraphs 3.59 - 3.77):

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

SEStran agrees that powers should be made available to approve automated vehicles as able to operate without a user-in-charge. While today’s technology might not allow for the safe operation of an automated vehicle without a user-in-charge, it is important that regulation is sufficiently flexible to accommodate for technological improvements that could lead to the safe operation of automated vehicles without a user-in-charge. If regulation is too strict and does not allow for automated vehicles to operate without a user-in-charge unless the regulation is amended, it might stifle technological development. This essentially comes back to the challenge of regulating new technologies and finding the right balance between under-regulation, which might compromise safety standards, and over-regulation which could stifle innovation.

When should secondary activities be permitted?

Consultation Question 6 (Paragraphs 3.80 - 3.96):

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

When an automated driving system is engaged, the driver becomes the user-in-charge and the responsibility for the dynamic driving task shifts onto the automated driving system. The user-in-

charge would only have the responsibility to take over from the automated driving system, and would not have any direct responsibilities in relation to the driving itself. The user-in-charge should be allowed to engage in secondary activities to the extent that he/she is able to promptly and adequately respond to a request to take over driving responsibilities from the automated driving system when requested to do so.

Consultation Question 7 (Paragraphs 3.80 - 3.96):

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

- (1) should the fallback be permitted to undertake other activities?
- (2) if so, what should those activities be?

With a conditionally automated driving system, the human driver is required and expected to respond when the automated driving system fails or requests the human driver to take over. This means that the human driver would still carry the responsibility of driving and should not be permitted to undertake secondary activities. It is recognised, however, that it can be challenging for someone to remain engaged in the driving when he/she is not actively performing the dynamic driving task.

CHAPTER 4: REGULATING VEHICLE STANDARDS PRE-PLACEMENT

A new safety assurance scheme

Consultation Question 8 (Paragraphs 4.102 - 4.104):

Do you agree that:

- (1) a new safety assurance scheme should be established to authorise automated driving systems which are installed:
 - a. as modifications to registered vehicles; or
 - b. in vehicles manufactured in limited numbers (a "small series")?
- (2) unauthorised automated driving systems should be prohibited?
- (3) the safety assurance agency should also have powers to make special vehicle orders for highly automated vehicles, so as to authorise design changes which would otherwise breach construction and use regulations?

SEStran agrees that for the general purpose of road safety, a new safety assurance scheme should be established for the authorisation of automated driving systems which are installed as modifications to registered vehicles or in vehicles manufactured in limited numbers. SEStran also agrees that unauthorised automated driving systems should be prohibited by law.

Consultation Question 9 (Paragraphs 4.107 - 4.109):

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

SEStran agrees that every automated driving system should be backed by an entity (ADSE) which takes responsibility for the safety of the system. It would seem to be the most effective way of protecting the safety standards of automated vehicles and seems to be best practice across various countries.

Consultation Question 10 (Paragraphs 4.112 - 4.117):

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

For the general purpose of protecting road safety, independent third-party testing would seem preferable. This seems to be the most transparent manner of scrutinising the automated driving

system. Alternatively, self-certification would be appropriate if the safety standards a manufacturer should meet are sufficiently high and appropriately controlled.

Consultation Question 11 (Paragraphs 4.118 - 4.122):

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

In this context, it would again seem most appropriate to have third-party testing in order to protect road safety. That would allow local or regional agencies to establish region-specific standards which an automated driving system should meet, and take into account local conditions.

CHAPTER 5: REGULATING SAFETY ON THE ROADS

A new organisational structure?

Consultation Question 12 (Paragraphs 5.30 - 5.32):

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

If so, should the organisation have responsibilities for:

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

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

SEStran believes that it needs to be established from the outset what the scope of responsibilities is of such a new safety assurance scheme. If it is to cover all aspects of automated vehicles, the scheme should indeed extend to regulating consumer and marketing materials, market surveillance and roadworthiness tests. It is acknowledged that such a specialised body is most likely to be best suited to regulate all aspects of automated vehicles.

Driver training

Consultation Question 13 (Paragraphs 5.54 - 5.55):

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

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

It is pertinent that human drivers know what their responsibilities are while using an automated vehicle. Given the fact that there are many different types of automation, training would seem necessary to appropriately inform drivers of their responsibility before using any particular type of automated vehicle. The responsibility of driving safely does not only refer to the safety of the driver itself and potential passengers, but extends to other road users. It would seem necessary for the purpose of general road safety that drivers are appropriately made aware of their responsibilities when driving an automated vehicle, meaning that additional training on a merely voluntary basis would not be sufficient.

Accident investigation

Consultation Question 14 (Paragraphs 5.58 - 5.71):

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.

No comment.

Setting and monitoring a safety standard

Consultation Question 15 (Paragraphs 5.78 - 5.85):

- (1) Do you agree that the new safety agency should monitor the accident rate of highly automated vehicles which drive themselves, compared with human drivers?
- (2) We seek views on whether there is also a need to monitor the accident rates of advanced driver assistance systems.

SEStran agrees that the accident rate of highly automated vehicles which drive themselves compared to human drivers should be monitored for the purpose of protecting road safety and continuous improvement of the technology.

The technical challenges of monitoring accident rates

Consultation Question 16 (Paragraphs 5.86 - 5.97):

- (1) What are the challenges of comparing the accident rates of automated driving systems with that of human drivers?
- (2) Are existing sources of data sufficient to allow meaningful comparisons? Alternatively, are new obligations to report accidents needed?

No comment.

CHAPTER 6: CIVIL LIABILITY

Is there a need for further review?

Consultation Question 17 (Paragraphs 6.13 - 6.59):

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

- (1) Are sections 3(1) and 6(3) on contributory negligence sufficiently clear?
- (2) Do you agree that the issue of causation can be left to the courts, or is there a need for guidance on the meaning of causation in section 2?
- (3) Do any potential problems arise from the need to retain data to deal with insurance claims?
If so:
 - a. to make a claim against an automated vehicle's insurer, should the injured person be required to notify the police or the insurer about the alleged incident within a set period, so that data can be preserved?
 - b. how long should that period be?

No comment.

Civil liability of manufacturers and retailers: Implications

Consultation Question 18 (Paragraphs 6.61 - 6.116):

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

No comment.

Consultation Question 19 (Paragraphs 6.61 - 6.116):

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

No comment.

CHAPTER 7: CRIMINAL LIABILITY

Offences incompatible with automated driving

Consultation Question 20 (Paragraphs 7.5 - 7.11):

We seek views on whether regulation 107 of the Road Vehicles (Construction and Use) Regulations 1986 should be amended, to exempt vehicles which are controlled by an authorised automated driving system.

No comment.

Consultation Question 21 (Paragraphs 7.5 - 7.11):

Do other offences need amendment because they are incompatible with automated driving?

No comment.

Offences relating to the way a vehicle is driven

Consultation Question 22 (Paragraphs 7.14 - 7.19):

Do you agree that where a vehicle is:

- (1) listed as capable of driving itself under section 1 of the Automated and Electric Vehicles Act 2018; and
- (2) has its automated driving system correctly engaged;

the law should provide that the human user is not a driver for the purposes of criminal offences arising from the dynamic driving task?

SEStran agrees that the law should provide that the human user is not a driver for the purpose of criminal offences arising from the dynamic driving task where a vehicle is listed as capable of driving itself and the automated driving system is correctly engaged. The user-in-charge would have the responsibility to respond to request to take over dynamic driving task when requested to do so while the automated vehicle should be able to return to a safe stop.

Consultation Question 23 (Paragraph 7.21):

Do you agree that, rather than being considered to be a driver, a user-in-charge should be subject to specific criminal offences? (These offences might include, for example, the requirement to take reasonable steps to avoid an accident, where the user-in-charge is subjectively aware of the risk of serious injury (as discussed in paragraphs 3.47 to 3.57)).

As mentioned in question 3, SEStran believes it would be desirable for a user-in-charge to be required to take reasonable to avoid an accident. However, this would significantly blur the lines of responsibility between the automated vehicle and the user-in-charge. It would be extremely difficult

to establish whether someone was aware of a risk and could have avoided an accident, given the fact that the user-in-charge would not be considered a driver for the purpose of civil and criminal law. If a user-in-charge is permitted to engage in secondary activities to the extent that he/she is able to respond to a request to take over controls of the vehicle, he might not be in the position to take reasonable steps to avoid an accident.

Consultation Question 24 (Paragraphs 7.23 - 7.35):

Do you agree that:

- (1) a registered keeper who receives a notice of intended prosecution should be required to state if the vehicle was driving itself at the time and (if so) to authorise data to be provided to the police?
- (2) where the problem appears to lie with the automated driving system (ADS) the police should refer the matter to the regulatory authority for investigation?
- (3) where the ADS has acted in a way which would be a criminal offence if done by a human driver, the regulatory authority should be able to apply a range of regulatory sanctions to the entity behind the ADS?
- (4) the regulatory sanctions should include improvement notices, fines and suspension or withdrawal of ADS approval?

SEStran agrees with the points above. No further comment.

Responsibilities of “users-in-charge”

Consultation Question 25 (Paragraphs 7.37 - 7.45):

Do you agree that where a vehicle is listed as only safe to drive itself with a user-in-charge, it should be a criminal offence for the person able to operate the controls (“the user-in-charge”):

- (1) not to hold a driving licence for the vehicle;
- (2) to be disqualified from driving;
- (3) to have eyesight which fails to comply with the prescribed requirements for driving;
- (4) to hold a licence where the application included a declaration regarding a disability which the user knew to be false;
- (5) to be unfit to drive through drink or drugs; or
- (6) to have alcohol levels over the prescribed limits?

SEStran agrees with the points above. The user-in-charge must be qualified and fit to drive, like any other driver, because the user-in-charge must be able to assume full responsibilities of a driver when requested to take over the dynamic driving task from the automated vehicle.

Consultation Question 26 (Paragraphs 7.37 - 7.45):

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.

SEStran believes that it should be a criminal offence to be carried in a vehicle if there is no person able to operate the controls when the vehicle is listed as only safe to drive itself with a user-in-charge.

Responsibilities for other offences

Consultation Question 27 (Paragraphs 7.48 - 7.65):

Do you agree that legislation should be amended to clarify that users-in-charge:

- (1) Are “users” for the purposes of insurance and roadworthiness offences; and

- (2) Are responsible for removing vehicles that are stopped in prohibited places, and would commit a criminal offence if they fail to do so?

SEStran agrees with the above comments. In addition, users-in-charge should only be considered users for the time that the automated driving system is engaged. When it is not or no longer engaged, the user-in-charge assumes responsibilities of a driver. When the automated vehicle stops in a prohibited place, the user-in-charge would assume responsibilities of a driver and have an obligation to remove the vehicle.

Consultation Question 28 (Paragraphs 7.59 - 7.61):

We seek views on whether the offences of driving in a prohibited place should be extended to those who set the controls and thus require an automated vehicle to undertake the route.

No comment.

Obligations that pose challenges for automated driving systems

Consultation Question 29 (Paragraphs 7.71 - 7.88):

Do you agree that legislation should be amended to state that the user-in-charge is responsible for:

- (1) duties following an accident;
- (2) complying with the directions of a police or traffic officer; and
- (3) ensuring that children wear appropriate restraints?

It should be considered that the automated driving system stops following an accident. The user-in-charge should take over responsibilities of a driver following the accident, while the accident may have happened when the automated vehicle was carrying the responsibilities of a driver.

The automated vehicle is only considered 'driver' in relation to the performance of the dynamic driving task. The user-in-charge is not only 'user' of the automated vehicle, but is also 'in charge' of the safe use of the automated vehicle and is therefore responsible for all other duties related to the use of the automated vehicle, such as duties following an accident, ensuring that children wear appropriate restraints.

As for complying with the directions of a police or traffic officer, this relates to the performance of the dynamic driving task and should be the responsibility of the automated vehicle while the automated driving system is engaged.

Consultation Question 30 (Paragraphs 7.71 - 7.88):

In the absence of a user-in-charge, we welcome views on how the following duties might be complied with:

- (1) duties following an accident;
- (2) complying with the directions of a police or traffic officer; and
- (3) ensuring that children wear appropriate restraints.

No comment.

Consultation Question 31 (Paragraphs 7.71 - 7.88):

We seek views on whether there is a need to reform the law in these areas as part of this review.

No comment.

Aggravated offences

Consultation Question 32 (Paragraphs 7.92 - 7.123):

We seek views on whether there should be a new offence of causing death or serious injury by wrongful interference with vehicles, roads or traffic equipment, contrary to section 22A of the Road Traffic Act 1988, where the chain of causation involves an automated vehicle.

No comment.

Consultation Question 33 (Paragraphs 7.113 - 7.123):

We seek views on whether the Law Commissions should review the possibility of one or more new corporate offences, where wrongs by a developer of automated driving systems result in death or serious injury.

No comment.

CHAPTER 8: INTERFERING WITH AUTOMATED VEHICLES

Consultation Question 34 (Paragraphs 8.1 - 8.58):

We seek views on whether the criminal law is adequate to deter interference with automated vehicles. In particular:

- (1) Are any new criminal offences required to cover interference with automated vehicles?
- (2) Even if behaviours are already criminal, are there any advantages to re-enacting the law, so as to clearly label offences of interfering with automated vehicles?

SEStran believes that it should be a criminal offence to interfere with automated vehicles and 'hack' the automated driving system. SEStran has no further comment as to whether this would fall within the scope of existing criminal offences or whether there is a need for a new offence.

Tampering with vehicles

Consultation Question 35 (Paragraphs 8.28 - 8.31):

Under section 25 of the Road Traffic Act 1988, it is an offence to tamper with a vehicle's brakes "or other mechanism" without lawful authority or reasonable cause. Is it necessary to clarify that "other mechanism" includes sensors?

No comment.

Unauthorised vehicle taking

Consultation Question 36 (Paragraphs 8.32 - 8.39):

In England and Wales, section 12 of the Theft Act 1968 covers "joyriding" or taking a conveyance without authority, but does not apply to vehicles which cannot carry a person. This contrasts with the law in Scotland, where the offence of taking and driving away without consent applies to any motor vehicle. Should section 12 of the Theft Act 1968 be extended to any motor vehicle, even those without driving seats?

No comment.

Causing danger to road users

Consultation Question 37 (Paragraphs 8.6 - 8.12):

In England and Wales, section 22A(1) of the Road Traffic Act 1988 covers a broad range of interference with vehicles or traffic signs in a way which is obviously dangerous. In Scotland, section 100 of the Roads (Scotland) Act 1984 covers depositing anything on a road, or inscribing or affixing something on a traffic sign. However, it does not cover interfering with other vehicles or moving traffic signs, even if this would raise safety concerns. Should section 22A of the Road Traffic Act 1988 be extended to Scotland?

No comment.

CHAPTER 9: “MACHINE FACTORS” – ADAPTING ROAD RULES FOR ARTIFICIAL INTELLIGENCE DECISION-MAKING

Rules and standards

Consultation Question 38 (Paragraphs 9.6 - 9.27):

We seek views on how regulators can best collaborate with developers to create road rules which are sufficiently determinate to be formulated in digital code.

No comment.

Should automated vehicles ever mount the pavement?

Consultation Question 39 (Paragraphs 9.6 - 9.37):

We seek views on whether a highly automated vehicle should be programmed so as to allow it to mount the pavement if necessary:

- (1) to avoid collisions;
- (2) to allow emergency vehicles to pass;
- (3) to enable traffic flow;
- (4) in any other circumstances?

SEStran believes that it is necessary to programme highly automated vehicles in such a manner that it mounts the pavement when necessary, for example to avoid collisions, to allow emergency vehicles to pass, and to enable traffic flow. Nevertheless, the automated vehicle should only be allowed to do so when mounting the pavement is safe to do so and does not create a risk of injury to other road users, such as cyclists, and pedestrians.

Consultation Question 40 (Paragraphs 9.6 - 9.37):

We seek views on whether it would be acceptable for a highly automated vehicle to be programmed never to mount the pavement.

SEStran believes that there can always be certain traffic situations in which a highly automated vehicle would be required to mount the pavement for the general purpose of road safety. Therefore, it would not be acceptable for a highly automated vehicle to be programmed to never mount the pavement.

Should highly automated vehicles ever exceed speed limits?

Consultation Question 41 (Paragraphs 9.40 - 9.47):

We seek views on whether there are any circumstances in which an automated driving system should be permitted to exceed the speed limit within current accepted tolerances.

SEStran believes that automated vehicles should be allowed to exceed the speed limit (within reason) if it is to protect road safety, for example to quickly overtake a vehicle to avoid collision. The automated vehicle should in principle be able to anticipate speed limit changes but some tolerance might be necessary to prevent overly sharp braking which could compromise road and passenger safety.

Edging through pedestrians

Consultation Question 42 (Paragraphs 9.49 - 9.55):

We seek views on whether it would ever be acceptable for a highly automated vehicle to be programmed to “edge through” pedestrians, so that a pedestrian who does not move faces some chance of being injured. If so, what could be done to ensure that this is done only in appropriate circumstances?

SEStran believes that a highly automated vehicle should only be allowed to edge through pedestrians if the vehicle is able to detect whether or not a pedestrian is actually moving. It is possible that a child, (or anyone for that matter) fails to move. An automated vehicle should only be allowed to edge through pedestrians to the extent that it can identify whether someone has not moved and is able to come to a stop in time to avoid a risk of serious injury.

Avoiding bias in the behaviour of automated driving systems

Consultation Question 43 (Paragraphs 9.68 - 9.74):

To reduce the risk of bias in the behaviours of automated driving systems, should there be audits of datasets used to train automated driving systems?

SEStran believes that there should be audits of datasets used to train automated driving systems to reduce the risk of bias in their behaviours. While it is acknowledged that it might be extremely challenging to avoid any bias in algorithmic decision making and machine learning, audits of the datasets will be able to identify areas of bias which can help inform further research and development.

Transparency

Consultation Question 44 (Paragraphs 9.76 - 9.88):

We seek views on whether there should be a requirement for developers to publish their ethics policies (including any value allocated to human lives)?

SEStran believes that there should be a requirement for developers to publish their ethics policies for the purpose of transparency. This opens the general debate about Artificial Intelligence and the ethical challenges associated with it. This debate can again inform the further development of the technology and the ethics policies as these evolve overtime.

Consultation Question 45 (Paragraphs 9.76 - 9.88):

What other information should be made available?

No comment.

Future work and next steps

Consultation Question 46 (Paragraphs 9.91 - 9.93):

Is there any other issue within our terms of reference which we should be considering in the course of this review?

No comment.