Law Commission
Consultation on Automated Vehicles

Response from AXA UK

About AXA UK

1. AXA UK (AXA) is part of the AXA Group, a worldwide leader in financial services. AXA Group operates in 62 countries with over 160,000 employees and 105 million customers. AXA has around 11 million customers in the UK and operates through specific operating companies – AXA Insurance and AXA PPP healthcare.

2. AXA has been involved in the automated vehicles space since 2014, recognising the positive societal impact this new technology could have and since then we have joined a number of government backed projects and given evidence to the Public Bill Committee for the Automated and Electric Vehicles Act. The company is involved in five government backed projects – VENTURER, FLOURISH, Capri, UK Autodrive and Robopilot.

Executive summary

3. AXA wants to lead the insurance industry in being an enabler of Automated Vehicle technology and to make certain it is rolled out safely – not blocking beneficial changes for society. We welcome the Law Commission's consultation on the regulatory framework of automated vehicles as an important step towards their safe deployment in the UK.

4. AXA believe that it is crucial that the responsibilities of the 'user-in-charge' and all stakeholders are clearly defined, the deployment of automated vehicles is underpinned by a criminal and civil legal framework that prevents any blurring of responsibility and any wholesale changes to the current road safety regime must be clear and concise.

5. We firmly support that, for the safe implementation of automated vehicles, consumer education of the equipment, road and safety rules and any legal responsibilities is paramount. Therefore, we support, amongst other recommendations, one organisation having clear responsibility for implementing a new safety assurance scheme and compulsory training for motorists using automated vehicles.

6. Access to data is fundamental for establishing liability and accurate risk modelling. The type of data being collected and its uses should be transparent. AXA believe that government and Parliament should place greater focus on the data and connected element of automated vehicles. The issue is two-fold, first, cyber security and second, how data is shared and used in this new ecosystem. These vehicles will be the most sophisticated, complex and advanced technology to date that the general public will encounter, and therefore, the risk of cyber-attack is high. On data usage and sharing, to ensure data is protected but does not inhibit the functioning of the system (e.g. insurers' having sufficient access to standardised accident data), we recommend that government and industry collaborate to structure a 'data map' to identify who needs to access data, what type of data and when.

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) 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.

7. AXA agrees with statement 1, for vehicles that may require human intervention at some point in the journey would require a user-in-charge. For a fully autonomous vehicle without any provisions for user input, we do not think one would be required. For fully autonomous vehicles, where the human occupant is that of a passenger, the vehicle could be authorised as able to function safely without one.

8. For vehicles that may require human intervention at some point in the journey, we would agree that the user-in-charge should conform to statements 2a, 2b and 2c. This is because there is still a need for the user-in-charge to be able to drive at some points, and the Automated and Electric Vehicles Act sets out that the user is not liable while the vehicle is in automated mode and vice-versa. It is worth noting that with an SAE Level 4 vehicle it would be able to go to safe harbour if there was no response from the user-in-charge.

9. With regard to statement 3, AXA see the phrase 'caused by the automated driving system' as crucial when discussing where liability lies in this scenario. If the user-in-charge intervened to mitigate the risk of an accident proven to be caused by the automated driving system, we would support the vehicle still being considered as driving itself, absolving the user-in-charge of any liability. If, however, it could be proven through data that the intervention of the user in charge was an aggravating factor that increased the severity of the accident, contributory negligence could be assessed.

10. In other scenarios where the user-in-charge intervenes without request from the automated vehicle, and the accident was not caused by the automated driving system, the user-in-charge should then be liable as in any current driving scenario. This is because by taking over the driving task, the user may actually increase the risk of an accident. Moreover, this proposal would risk blurring lines of responsibility which is crucial for automated systems to be trusted by consumers. Therefore, if the user-in-charge takes control in this scenario they should be liable if an accident occurs.

11. In a commercial model or a mobility as a service model where there is no user-in-charge, but there are passengers, and the only interaction is the potential to press an emergency press button in the event of an incident, then liability would not shift from the manufacturer to the passenger.

12. As a separate scenario, we would advocate for the presence of safety buttons in all AVs for exceptional safety circumstances e.g. if an automated vehicle was driving towards a river or did not sense an ambulance siren. If the user-in-charge or a passenger intervened to mitigate the risk of an accident by pressing a safety button to stop the moving automated vehicle, liability would not follow.

13. It is fundamental there are clear rules around what the expectations are for a user-in-charge in all driving scenarios. Any intervention by a user-in-charge must comply with a clear handover process. The handover process still requires further testing, especially relating to its timeframe, but once again clear rules need to be written to ensure clarity is provided for the user-in-charge in terms of what is expected of them and the tasks they are required to undertake.

Consultation Question 2 (Paragraph 3.45):
We seek views on whether the label "user-in-charge" conveys its intended meaning.

14. AXA believes the phrase 'user-in-charge' may lead to confusion for consumers regarding the specific responsibilities of the user of an AV. In certain driving scenarios, it may become unclear when an individual is required to function as a 'user-in-charge'. Although the term clearly defines the user as being 'in-charge' of the vehicle, the specific responsibilities of an individual taking on that role need to be explicitly defined in law and sufficiently communicated to consumers. It also needs to be made clear that different designs of automated vehicles require different responsibilities for the 'user-in-charge'. Moreover, it is important that there is a clear distinction made between the current clear definition of a 'driver' and a 'user-in-charge'.

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

15. In general, the user-in-charge of the vehicle must be clearly defined in law with little room for interpretation.

16. The scenario proposed in this question highlights a similar issue discussed in consultation 2 (paragraph 3.45), regarding the importance of a simple definition of an individual who takes responsibility for an automated vehicle. If a user-in-charge is safely occupying a vehicle in automated driving mode, they should not be deemed as criminally liable. The reasoning behind this is three-fold. One, we believe the legal framework should prevent blurring the clear line of responsibility. Two, the framework would safeguard the acceptance of automated driving systems by consumers. Three, determining whether the user-in-charge was subjectively aware of the risk of serious injury would make establishing criminal liability difficult.

17. However, with regard to civil liability, a "reasonable person" approach could be taken to establish contributory negligence in this scenario.

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.

18. AXA's work on various AV projects, supported by Innovate UK, has led us to believe that in any automated scenario, if the automated vehicle is suited to the environment, it will work safely. It is important to understand the real-world issues associated with driving to ensure automated driving systems can operate safely and effectively in the absence of a user-in-charge. A properly designed autonomous vehicle can always return to safe harbour which minimises the risk in the event of an incident, without relying on human intervention.

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?

19. AXA agrees, provided that there should be a clear definition of vehicles which can operate without a user-in-charge (for example SAE Level 5 / fully automated with no manual option). We would also encourage more consumer education and a law regarding what users-in-charge can and cannot do whilst in charge of the vehicle or whilst an individual is in the vehicle, but the vehicle is in automated mode e.g. use of mobile phones.

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?

20. AXA believes that a driver should be permitted to undertake some secondary activities only when the automated system is engaged in the case of a SAE Level 4 vehicle. It would need to be made clear what constituted an appropriate secondary activity.

21. In the case of a SAE Level 3 vehicle, which is conditional automation / advanced driver assistance, we do not believe the driver should be permitted to undertake any secondary activities. In this case the Automated and Electric Vehicles Act does not apply, and therefore, the driver is liable at all times as with a manual vehicle and must watch the road.

22. In the case of an SAE Level 5 / fully automated, there would be no need for any human driving activity and/or driving ability, so this question doesn't apply.

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?

23. The driver of a vehicle with conditional automation should not be allowed to perform any other tasks. An SAE Level 3 vehicle is a conditionally automated driving system, which relies on human users to be the 'fail safe' and so a request for intervention cannot safely be ignored, therefore we are clear that the human driver should not be permitted to undertake other activities. The driver of a conditionally automated driving system needs to be present and in control at all times, as in accordance with current law for driving a manual vehicle.

24. As stated above, for higher levels of automation some activities could be permitted, as the vehicle will go to safe harbour if there is no response from the user-in-charge.

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")?

25. Yes, as these vehicles / systems will not have been subject to any other regime or type approval.

(2) unauthorised automated driving systems should be prohibited?

26. Yes, considering the risks from autonomous driving, all systems should require authorisation. This will ensure that modifications to vehicles can only be made by appropriate parties and that these would require authorisation.

(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?

27. Yes.

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?

28. We agree that every automated driving system should be backed by an ADSE which takes responsibility for the safety of the system, but that responsibility needs to be carefully defined, the ADSE cannot be held responsible for all incidents.

Consultation Question 10 (Paragraphs 4.112 - 4.117):
We seek views on how far should a new safety assurance system be based on accrediting the developers' own systems, and how far should it involve third party testing.

29. We believe that a combination of both approaches would produce the best results, with a strong self-certification scheme, focusing on individual components and the manufacturing process, but backed up with independent third-party testing of the complete vehicle. This latter point, we believe, will be essential to ensure public confidence.

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.

30. Local conditions should be irrelevant if vehicles are designed to cope with all general road surfaces and weathers, but relationships established through the existing government funded projects (via Innovate UK and the Centre for Connected and Autonomous Vehicles (CCAV) should be developed to ensure good cooperation continues.

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.

31. AXA recognises that many people have concerns about the safety of this new technology. Moreover, we are concerned at the level of consumer awareness there currently is on automated vehicles, a recent survey commissioned by AXA, revealed that when asked to select a definition of a 'driverless' car from a list of SAE levels, only a third of respondents chose level 5 and a tenth of respondents selected SAE level 1.

32. For automated vehicles to be implemented in a manner that is accepted by the general motoring population, wholesale changes will need to be clear and concise. To this end, any new safety assurance scheme should be responsible for as many of the functions within these three areas as possible and should extend to advanced driver assistance systems. We believe that it is very dangerous for consumers to not fully understand what a vehicle is capable of doing and what they can or cannot be doing whilst they are the user-in-charge. A lack of understanding or disregard of advice would likely result in accidents.

33. We do recognise there are other agencies already in place that can be utilised to carry out some functions, but to improve trust in automated driving systems these responsibilities should be under clear guidance from the management of the new Safety Assurance Scheme.

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?

34. In our experience, most drivers are unlikely to pay for any additional training if it is voluntary, for example Government research found that only 3% of new drivers have taken their voluntary Pass Plus. Unless additional training becomes mandatory for existing drivers and included into the mandatory driving test for new drivers, it is expected that there would be little take-up for further training schemes. Currently, insurers often offer incentives to motorists for using equipment that monitors aspects of their driving (e.g. dashcams or app monitoring software), however, none of these guarantee a safe drive. To ensure drivers are safe when in automated vehicles there must be a strong understanding of the equipment. A potential option could be to make additional training for advanced driver systems compulsory.

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.

35. The current accident investigation process does not account for high level advanced driver assistance systems or automation. AXA strongly believe that to ensure accidents involving advanced driver assistance systems or driving automation systems are investigated appropriately, it is imperative to have either a specialist investigation team or extended training for current traffic officers. We are currently working with an Automated vehicle manufacturer and other relevant companies, to understand how accidents differ in the event of an automated vehicle situation, and furthermore what would then be needed to establish liability.

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.

36. A crucial benefit of automated driving systems is their potential to significantly reduce road traffic accidents. It is important that all decision made are in line with that benefit. Providing sufficient monitoring of the accident rate of highly automated vehicles is necessary for a greater understanding of the technology. We are aware that the Police are not in attendance to all road traffic accidents which results in data gaps for less serious accidents. AXA believe an extension to the current STATS19 criteria would adequately provide sufficient data monitoring. It is important for AXA, as an insurer, to have a comprehensive database with a record of the accident rate of highly automated vehicles.

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?

37. As discussed in our answer to question 15, STATS19 data is flawed by its inability to incorporate low severity road traffic accidents. However, we can rely on insurers being involved with claims arising from road accidents, and therefore are well placed to interpret and compare accident rates and the cost of accidents. It is important that insurers have access to sufficient information to establish liability. Regarding the current claims process, triggers can be put in place that allow for further required fields to be reported on in the event of a road traffic accident, one current example is asking the question whether automated emergency braking is fitted and whether it was switched on. Through updating the claims process to include further sources of in-vehicle data will improve monitoring of accident rates.

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?

38. As the current guidance contained in the Automated & Electric Vehicles Act 2018 is new, we would be supportive of a further review, especially using the further progress and experience of electric and automation in vehicles. We especially believe that the current law needs to be extended for the data element and connected element of Connected and Automated Vehicles (CAVs).

39. (1) If you use the concepts that we currently understand, a vehicle or a driver, as a foundation for a legal regime, then a further review would make the content of sections 3(1) and 6(3) clearer. Building on the terms we currently understand and use in practice would ease transition to automated driving systems.

40. (2) The clearer the definitions are on causation, the easier the legal process will be going forward. There will inevitably be a requirement for case law, but this should be minimised

41. (3) If the current rules are extended to be inclusive of automated vehicles, then the current requirements would suffice for insurers to properly deal with insurance claims.

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?

42. We would be supportive of a review into how product liability applies in this case. The reason for this is the structure we currently have; as it stands, all providers of software or hardware need to be included in this area of accountability.

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?

43. We would recommend that the Law Commission consider whether the incorporation of defective software code into an automated vehicle, or into hardware retrofitted to an automated vehicle, constitutes damage. Understanding if defective ingredients are incorporated into a product impacts what an insurer would provide cover for (e.g. pure financial loss or property damage) and under which class of business (which may or may not cover physical damage triggers).

44. If an AV which acts in a way which was unintended (from the perspective of the user, or the OEM, or the designer of the code) it is uncertain if this can be said to be 'defective' in the first place. This issue becomes further complicated if the AV is capable (either alone or through connection with other automated vehicles) of 'learning' to modify its behaviour by reference to its experience in the real world – independent of the user, the OEM or the designer. The Law Commission's views on this would be welcome.

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.

Consultation Question 21 (Paragraphs 7.5 - 7.11):
Do other offences need amendment because they are incompatible with automated driving?

45. Yes, there needs to be a thorough review as some elements will be incompatible.

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?

46. Yes, unless they have instructed the vehicle to operate in an illegal manner in some way for example making illegal modifications to the vehicle.

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)).

47. Subjective awareness is a difficult area and the user should be able to rely on the vehicle to operate safely and legally.

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?

48. Yes, we would agree.

(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?

49. Yes, we would agree.

(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?

50. Yes, we would agree.

(4) the regulatory sanctions should include improvement notices, fines and suspension or withdrawal of ADS approval?

51. Yes, we would agree.

<u>Responsibilities of "users-in-charge"</u>
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?

52. We agree, all of the current regulations for a driver should apply to a user-in-charge if the vehicle systems may at any time may require human intervention.

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.

53. As discussed in question 25 we agree that all current regulations should apply.

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?

54. As stated in our answers in Chapter 3, a clearly defined and communicated definition of a user-in-charge is critical.

55. Regarding insurance, roadworthiness and stopping in prohibited places, the current law relating to non-automated vehicles would still apply (in both the context of vehicle ownership and vehicle hire) in relation to the user-in-charge.

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.

56. Yes, we agree that the regulations should be extended.

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?

57. AXA agrees that legislation should be amended for all of the above responsibilities. As it currently stands, the driver of a non-automated vehicle is responsible for all of the above actions, therefore we would be supportive of amendments to ensure the responsibilities of the user-in-charge of an automated driving system is viewed in a similar way.

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.

58. The duties of a user-in-charge following an accident and in complying with a police or traffic officer can be automated functions of an automated vehicle. Ensuring that a child wears appropriate restraints is a duty which can also be automated but may be over-ridden. One possible way of ensuring this duty is complied with is to ensure the Automated Vehicle will not move if it detects a person is seated in the vehicle but is not restrained. We believe there is enough evidence to suggest all three of these duties can be complied with through automation.

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.

59. AXA would support a reform to the law in these areas, if current responsibilities are changed. Amendments to current legislation would be required to include the terms used, rather than creating new legislation the whole legal system would have to understand and apply.

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.

60. Yes, a new offence should be considered.

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.

61. Yes, new offences should be considered, but there may be appropriate measures in place already.

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?

62. Yes, we believe this would provide clarity.

(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?

63. Yes.

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?

64. Yes.

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?

65. Yes.

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 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?

66. Yes.

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.

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?

67. If we look at the current thought process of drivers in non-automated vehicles when they make a driving decision, many decisions are not made with safety in mind, severe changes of direction and braking are more of an automatic reaction to the circumstances outlined above. Programming automated vehicles to mount the pavement is not the preferred action for AXA, but

we would not object providing that safety is the priority of this programmed function and the function is tested thoroughly.

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.

68. Such a strict inflexible rule may not be safe. Safety must be encouraged in all regulations.

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.

69. There are no circumstances in which an automated driving system should be permitted to exceed the speed limit within current accepted tolerances.

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?

70. Systems should not be allowed to operate in a manner that increases the chances of pedestrians being injured.

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?

71. Yes.

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)?

72. Yes, if there are such statements.

Consultation Question 45 (Paragraphs 9.76 - 9.88):
What other information should be made available?

73. Information that enables the various bodies, police, insurers and other suitable providers, should have the appropriate data provided in order to continually develop the automation process. It would enable the services to be fine-tuned to the end user and enhance the acceptance of this technology.

74. In a connected ecosystem, it would be very unhelpful if different parties are unwilling to share their data or there are time consuming processes to access data. When data is being shared, it will be easiest for third parties like AXA if data is sent and stored in the same way as far as possible.

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?

75. Further work needs to be carried out to ensure the correct storage and sharing of data from Connected & Autonomous Vehicles, along with how this can be shared with the authorities, Insurers and others with a valid need for such information. This should include, but not be limited to, all relevant crash data, and information on the effective operation or otherwise of all systems, as well as records of associated human intervention. It is also essential that this crucial accident data is standardised, so that Insurers are able to interpret, compare and store this data easily.

76. AXA believes, as recommended in our Year 2 FLOURISH report, that government and Parliament should now look next to the connected element of Connected and Automated Vehicle (CAVs). This is critical to the proper functioning of the CAV ecosystem and also to consumer trust in this new technology. The issue to focus on is two-fold, firstly security against cyber-attack and secondly, how data is shared and used in this ecosystem.

77. The need for protection from cyber-attack is self-explanatory but worth noting that CAVs will be the most sophisticated, complex and advanced technology consumers to date that the general public will encounter. On data usage and sharing, to ensure data is protected but also doesn't inhibit the functioning of the system (for example, insurers' access to accident data), we recommend government looks to create a data map of this new complex ecosystem. Not only will this aid the functioning of the system, allowing decisions to be made regarding who has access and how data is stored, this will also help to create trust with consumers about how their data is used and who it is shared with.

If you need to get in touch regarding the information in this submission, please get in touch with Public Affairs Executive, Jonathon Murphy, at jonathon.murphy@axa-uk.co.uk or on 07866032309.