



Centre for Connected & Autonomous Vehicles

Safe Use of Automated Lane Keeping Systems (ALKS)

Response from AXA

1. AXA Group is a worldwide leader in financial services operating in 57 countries with 160,000 employees and 108 million customers worldwide. In the UK, AXA has around 11 million customers, serviced by businesses including AXA UK and AXA XL which operate in the retail and commercial motor insurance markets. AXA UK and AXA XL have provided the expertise for this response, combined, they have been partners on a number of consortia trialling automated vehicles including DRIVEN, FLOURISH, CAPRI, UK Autodrive, Robopilot, VENTURER, and VI-DAS. AXA XL has a partnership with start-up Oxbotica, now one of the world's leading autonomous driving software companies. AXA Group also has a partnership with Navya, the first company to introduce autonomous mobility solutions.

Executive Summary

2. As a leading insurer supporting the development of Connected and Automated Mobility, AXA welcome this opportunity to submit our feedback to this Call for Evidence on the Safe Use of Automated Lane Keeping Systems (ALKS). AXA is committed to finding and developing ways to make our roads safer, more efficient and more accessible for those currently unable to drive. We firmly believe assisted driving technology and automated driving technology are transport innovations that can provide these societal benefits for the UK road network provided it is supported by a clear legal and regulatory framework.
3. AXA has been involved in the Connected and Autonomous Vehicles (CAV) space since 2014 and we have partnered five Government-backed projects, focusing on different aspects of CAV testing and development. Our role in these consortiums is to provide advice on safety, regulation, liability and data. Furthermore, AXA gave evidence to the Public Bill Committee on the Automated and Electric Vehicles Act 2018, which is a crucial piece of legislation for consideration when assessing the use of ALKS on Great Britain's roads.
4. AXA is keen to support, promote and enable the take-up of automated technology on UK roads, provided the deployment of the technology is underpinned by a clear legal and regulatory framework which prioritises safety and is appropriate for the level of automation in development. Automated technology can have significant societal benefits including improvements in road safety, a transition to cleaner, more efficient vehicles and improving accessibility for those currently unable to drive. ALKS signals strong progress towards an automated future, but the evidence base suggests the technology is not sophisticated enough to be treated as 'automated'. Unless the technological and regulatory challenges outlined within this response can be addressed, to follow the approach published by the Government within its execution timelines would lead to clear safety risks and consumer confusion.



Questions

Question 1

Do you foresee any legal barriers to accessing data for incident investigation? If yes, what are those barriers?

5. The inclusion of data use as an area for discussion within this Call for Evidence is welcomed. AXA has long called for further focus on the issues surrounding the access, storage and processing of data. From an insurer's perspective the availability of vehicle data is critical for establishing liability in the event of an accident to ensure claims can be processed effectively and those affected can receive the settlements they are due. This is particularly important for conditionally automated vehicles as insurers need to establish whether the automated driving system was in operation or whether the user of the vehicle was acting as a conventional driver.
6. AXA welcomes the inclusion of the Data Storage System for Automated Driving requirements outlined in paragraph 2.19. For liability disputes to be fairly resolved, the insurance industry has continuously stated that data must be equally and equitably accessible to the manufacturer and insurer to enable a speedy review of whether the driver or vehicle was in control at the time of an incident. A specific and limited data set should be accessible for insurers following every incident, without charge, built up via data recording systems that provide sufficient information to assess liability disputes. As discussed in Thatcham Research's [report](#) *Defining Safe Automated Driving*, the data requested would include variables such as a GPS-event time stamp, activation status of each automated driving feature, a record of driver intervention of steering, braking, accelerator or gearshift and whether a Minimum Risk Manoeuvre has been triggered. This data would likely become available within a central repository i.e. a neutral server for shared accident data. AXA believes paragraph 2.19 outlines a comprehensive list of data requirements, further granular detail and guidance on those requirements would be welcome going forward.
7. AXA recognises that from both a legal and practical perspective there are issues associated with the transferring and sharing of data between entities. As indicated above, it is essential that the law provides a level playing field, including a provision that ensures vehicle manufacturers make a limited dataset available to insurers which confirms whether the automated system or the human driver was in control leading up to a collision. Moreover, there are practical challenges with the data volumes created by automated technology; the significant volume of data may be unmanageable for many entities to process, protect and store, especially for new entrants to the marketplace. As prescribed above and in the consultation document, data recording should be specific to determine liability in the event of an incident i.e. a short window of 60 seconds before and after an incident.
8. There have been a number of papers constructed on minimum standards for data-sharing and provision in the automated vehicle environment that look to address these concerns such as the *Insurance & Legal Report* published by AXA UK and Burges Salmon LLP for the FLOURISH consortium and *Defining Safe Automated Driving* by Thatcham Research and the Association of British Insurers. In the former, AXA and Burges Salmon outlined a list of best-practice principles for protecting data in the CAV sector including ensuring there is accountability at board-level, identifying a lawful basis of processing, building privacy by design and following best practice guidance on cyber security. Developing clear guidance on the management of data will be essential as assisted driving and automated technology becomes commercially available on UK roads.



9. AXA believes that the requirements around data storage can be met through the approach outlined by the Government. To overcome outstanding challenges, AXA would urge government to ensure that provisions surrounding data transmission are put in place in a manner that guarantees the legal rights of vehicle users and passengers are always met. Furthermore, AXA would urge government to support closer interaction between providers and insurers in order to develop a “self-regulated” environment where insurers can provide safety insights to carriers and regulators.
10. Beyond the legal barriers to accessing accident data, AXA is concerned that ALKS systems do not require a vehicle to detect low-velocity, low-impact collisions such as when pedestrians collide with a vehicle. 26% of UK [road fatalities](#) in 2019 involved a pedestrian and from previous yearly [statistics](#) it is likely that a proportion of those fatalities involved pedestrians on motorways such as road maintenance workers, people leaving their vehicles in an emergency or people who have accessed the motorway by mistake. Although ALKS regulations require data recording, if an ALKS cannot detect an incident with a pedestrian the vehicle is not emulating an attentive driver. Moreover, government’s approach to define the vehicles as ‘Automated’ under the Automated and Electric Vehicles Act (AEVA) would enable an insurer to subrogate, either by having recourse against the liable other driver or the manufacturer of the ALKS-functional vehicle. If a vehicle cannot detect an incident, liability cannot be established, and it becomes extremely problematic for insurers to comply with their obligations under AEVA.
11. AXA has continually urged government to place greater focus on the data and connected element of automated technology. One approach that could support further collaboration in this area is the creation of a ‘data map’ to identify clearly who needs to access data, what type of data and when. Far reaching analysis into data requirements and ensuring the data is processed, stored and protected appropriately is needed.
12. Ultimately, without an effective means for insurers to access incident data, there will not be an effective and efficient means to establish liability, which will prevent the provisions outlined in the Automated and Electric Vehicles Act (AEVA) being implemented properly.

Question 2

How do you think the driver should be educated and informed to understand the abilities and limitations of the system to ensure they use it safely?

13. AXA firmly believes it is of utmost importance that potential users of ALKS technology understand the technical limitations of the systems and the clear distinction between assisted driving and automated driving. Automated driving refers to systems that are capable of operating in clearly defined automated mode(s) and can safely drive the vehicle in specified design domains without the need to be controlled or monitored by an individual. Assisted driving refers to systems that provide continuous support to the driver. The driver must remain engaged with the driving task and driver monitoring systems must be present in the vehicle to ensure that this happens. ALKS technology is based on current assisted driving technology, which has significant safety limitations compared to an attentive human driver and requires the human driver to act as a fallback to guarantee road safety. For example, vehicles possessing current ALKS technology cannot move the vehicle from lane to lane and therefore, it is unable to action relatively likely driving scenarios including swerving around debris on the road or responding to a car stalled in a lane. This is an example of a significant safety limitation of an assisted driving system and must be considered when determining the



definition of ALKS technology. To recognise the safety limitations of ALKS, it should be made unequivocally clear that current technology is a form of assisted driving.

14. There remain misconceptions about the current level of this technology, it is fundamental that policymakers and transport operators know exactly what the limits of the technology are, otherwise the clear benefit of safer roads will be under threat. To support currently qualified drivers, a broader communication programme will need to be implemented by the Department for Transport, road authorities, manufacturers, insurers and other relevant stakeholders to continuously provide the appropriate information and education for consumers. It is particularly critical that marketing material provided by manufacturers clearly states the limitations of the technology and how the user will need to interact with the technology to use it safely. AXA believes government should look intently at this area given the importance of ensuring coherent messaging is available to all consumers.
15. In the longer term, to ensure that drivers are aware of their responsibilities and the limitations of the systems they are using, AXA would urge government to consider adapting the driving test for new drivers to include a component that addresses ALKS technology and levels 4 and 5 automated technology, as defined by the Society of Automotive Engineers (SAE), when it is commercially available.

Question 3

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

16. As discussed elsewhere in this response, a critical area for providing appropriate education and information to consumers of the new technology is the marketing and sale of vehicles with ALKS functionality. While AXA appreciate that manufacturers rightly have a commercial interest in maximising the sale of vehicles with ALKS systems, manufacturers also have a responsibility to clearly state the limitations of the technology and the responsibilities of the user when they are interacting with it. There is naturally great excitement about the development of automated vehicles, however, drivers should not be given unrealistic expectations about a system's capabilities. It is fundamental that ALKS equipped vehicles are classified and marketed as 'driver assisted systems'.
17. While the selling of these systems is the gateway to conditional automation, it is incredibly important that the messaging from manufacturers, the second-hand vehicle market, government and public bodies clearly informs end-users, during the entire lifecycle of a vehicle, of their responsibilities when using ALKS and the technological limitations of the software. Government should look intently at this area as it will be crucial to ensure there is coherent messaging.

Question 4

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

18. AXA believes that at the centre of policymaker's decision making on ALKS technology should be the clear fact that ALKS systems is a form of assisted driving. Where a vehicle is only capable of providing assistance to a driver, this must be clearly communicated by all relevant authorities and agencies to avoid situations where drivers are distracted from the driving task. A distracted driver will no longer be able to respond quickly to a transition demand and take the necessary actions to avoid an accident occurring on a UK road. Therefore, AXA see



government's role as providing appropriate regulation underpinning ALKS technology supported by clear information on the capabilities of ALKS technology and the responsibilities of the user.

Question 5

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

19. AXA would have significant concerns about a scenario where any vehicle approved to the ALKS regulation is automatically considered to be an automated vehicle under AEVA. This is primarily because, as outlined elsewhere in the consultation, ALKS technology is a form of assisted driving with the driver needing to remain engaged with the driving task at all times.
20. AXA is supportive of the minimum requirements for safe automation as outlined by Thatcham Research's [report](#) *Defining Safe Automated Driving* which highlights 12 key criteria. At the minimum standard currently proposed for type approval under the regulation the ALKS technology is some way off meeting these criteria. For instance, the Minimum Risk Manoeuvre is a critical element of ensuring safety in the event of a system failure or a non-responsive user-in-charge. Current ALKS technology following the approach outlined in the Call for Evidence cannot change lanes and instead would bring the vehicle to a halt in a live traffic lane, regardless of which lane the vehicle was travelling in. This would be increasingly concerning on UK Smart motorways. An additional area worth identifying is ensuring safe functionality in the Operational Design Domain (ODD). While AXA appreciates that the Government has referenced basic Vulnerable Road User avoidance tests, AXA has concerns that current ALKS technology is not capable of detecting objects low to the ground, for example a motorcyclist who has fallen off his bike and is lying within a lane. Technological limitations of this nature are a safety issue that could cause serious injury on UK roads.
21. Furthermore, as discussed elsewhere, AXA is concerned that ALKS systems do not require a vehicle to detect low-velocity, low-impact collisions such as when pedestrians collide with a vehicle. Although ALKS regulations require data recording, if an ALKS cannot detect an incident with a pedestrian, the vehicle is not emulating an attentive driver. Not only is this inherently unsafe it is extremely problematic for insurers complying with their legal obligations under AEVA.
22. The AEVA 2018 s 8(1) definition of a vehicle 'driving itself' requires the automated vehicle to be 'operating in a mode in which is not being controlled, and does not need to be monitored, by an individual'. The definition outlined in the AEVA 2018 was not intended to be aimed at assisted driving technologies, but more advanced automated and driverless systems at SAE Level 4 and Level 5. This interpretation was further supported in Baroness Sugg's [letter](#) following the Bill's second reading on 20th February 2018 where it clearly states that 'the Bill does not cover conditionally automated (broadly equivalent to Level 3) vehicles'.
23. It would be undesirable for vehicles with significant safety limitations and that require a human driver to act as a fallback when the automated driving system is engaged to be authorised as an automated vehicle. AXA believes this move will only entrench misconceptions about the capabilities of these vehicles and result in blurring responsibilities for users. While decisions on vehicle type-approval are made at an international level, conditional automation is likely to confuse drivers who may over rely on the system when it is



not appropriate to do so. Not only are there significant safety risks attached, the public's take-up of this new technology relies on a clear legal and regulatory framework that instils trust for users.

24. Unless the approach outlined by the Government and the limitations of current ALKS technology can address the current limitations outlined above, AXA would have serious concerns about classifying these vehicles as automated under AEVA. As it currently stands, AXA believes it should be made unequivocally clear in regulation and guidance that ALKS technology is a form of assisted driving.

Question 6

Do you agree that the criteria set out in the Monitoring and Control Tests provide a reasonable framework for testing compliance with the AEVA definition of automation? Why?

25. ALKS systems should be able to carry out all reasonably foreseeable driving actions that may be necessary within the Operational Design Domain (ODD). Within the ODD on a motorway at low speeds the vehicle may encounter other vehicles changing lane, vehicles unpredictably stopping in lane, debris on the road and the need to merge into traffic.
26. While the criteria suggested seems reasonable, AXA believes that the criteria outlined in the Monitoring and Control Test does require further detail to be confident the framework will provide a reasonable framework for testing compliance. For example, it is necessary for a vehicle to comply with traffic rules relating to the Dynamic Driving Task in the country of operation, however, there should be further emphasis placed on ensuring the ALKS system can comply with all traffic rules in adverse weather conditions. Testing how an ALKS system can operate during difficult weather conditions, such as fog, will be important to ensure the technology can comply with the relevant road traffic rules at all times. The weather is also an important consideration for a vehicle to recognise when it is operating outside of its ODD, it may be manageable for a vehicle to recognise when a transition demand is needed in normal weather conditions, but the emphasis should be placed on operating safely in all weather conditions.
27. Furthermore, some road traffic rules could be operationally difficult for an ALKS system to comply with, for example when a vehicle is being overtaken, the regulatory framework states that the vehicle should not accelerate. Ensuring ALKS systems can understand and conform with those types of rules will be necessary for safe driving. AXA is also aware of government's proposed changes to the Highway Code to provide stronger protections for cyclists and other vulnerable road user groups, it is fundamentally important that the test criteria for ALKS and automated driving systems can successfully comply with these new legislative changes.
28. In addition to further detail on the Monitoring and Control Tests, the test criteria will need to be supported by a robust auditing process, which should be independently reviewed, physical testing and real world demonstrations. The Government should also consider how new road infrastructure will be tested or set-up in future to avoid misbehaviours of the ALKS.

Question 7

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

29. AXA has concerns around how ALKS will meet the criteria set out in Annex A. As outlined above, these vehicles will need to be able to meet all aspects of the criteria in adverse



weather conditions. While it may be possible for an ALKS system to comply with traffic rules and identify its ODD in normal weather conditions, there would be concerns on how safely an ALKS system can operate when in adverse weather such as fog. It would be helpful for further clarity to be provided on how ALKS systems should operate in adverse weather and whether there are certain weather conditions where the operation of these systems should be prohibited to prioritise safety.

30. Test criterion two is to avoid collisions which a competent and careful driver could avoid. As addressed elsewhere in the consultation, ALKS technology is based on current assisted driving technology, which has significant safety limitations compared to an attentive human driver and requires the human driver to act as a fallback to guarantee road safety. For example, vehicles possessing current ALKS technology cannot move the vehicle from lane to lane and therefore, the technology is unable to respond to relatively likely driving scenarios including swerving around debris on the road or responding to a car stalled in a lane. The Government should provide further clarity on what can be reasonably considered and competent and careful driving, as the current technology does not seem sufficient to meet this criterion.
31. Annex A lists 5.2.2 “The activated system shall detect a vehicle driving beside as defined in paragraph 7.1.2 and, if necessary, adjust the speed and/or the lateral position of the vehicle within its lane as appropriate”. There are some potential questions that arise from this scenario, for example how the framework and technology will cope when three vehicles are driving side by side on a three-lane motorway. In this situation, will the vehicle be able to identify this scenario and where it is appropriate to do so, will it be able to decelerate or accelerate in response to the other vehicles? AXA believes that scenario analysis surrounding the Monitoring and Control Tests would help to support the reasonableness of the testing framework and how ALKS systems can meet the relevant criteria.
32. Furthermore, Annex A lists 5.4.1, “The activated system shall recognise all situations in which it needs to transition the control back to the driver. Types of situations in which the vehicle will generate a transition demand to the driver shall be declared by the vehicle manufacturer and included in the documentation package required in Annex 4”. While AXA recognises the important transparency requirement for vehicle manufacturers to declare when the transition is required, there could be concerns around inconsistency as users are required to adjust to requirements in different ALKS enabled vehicles. Ensuring there is general consistency in how ALKS systems operate will be important to reduce confusion from consumers and highlights the need for an auditing process that is robust and independently reviewed. To simply audit the documentation falls short of what is required to ensure safe operation of the system. Furthermore, physical testing and real-world demonstrations are also necessary to determine vehicle safety and compliance.

Question 8

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

33. AXA has not seen evidence to suggest that ALKS technology could detect and respond to an enforcement vehicle approaching from behind signalling for the vehicle to pull over. As outlined in paragraph 3.26, it is not currently part of existing ALKS regulations for the vehicles to possess rear sensors that would prevent an ALKS system making a transition demand under its own volition. Therefore, it would be for the human driver to act as a fall back by



identifying the enforcement vehicle, taking back control from the vehicle and pulling the car over to a safe stop.

34. The example addressed by question eight provides a strong reason for preventing the user-in-charge of the vehicle when ALKS technology is in operation from performing secondary tasks. AXA does not consider the technology to be able to perform appropriate actions for the full range of potential driving situations that could be reasonably encountered by ALKS technology. Therefore, it should be argued that ALKS technology is not comparable to a fully attentive human driver and would lead to significant safety risks if defined as an 'automated vehicle' under AEVA.

Question 9

Do you think that 10 seconds is fast enough in the foreseeable circumstances to comply with the rules on responding to enforcement vehicles? If not, why?

35. AXA has concerns about the requirement that a driver will have a minimum of 10 seconds to respond to a transition demand before the vehicle performs a Minimum Risk Manoeuvre, particularly if the legislation was to allow drivers to disengage from the driving activity by performing secondary tasks. While AXA is aware that the UN ALKS Regulation specifies that 'A transition demand shall not endanger the safety of the vehicle occupants or other road users' (Reg 5.1.4), it remains distinctly possible that an ALKS vehicle could force a transition demand that would endanger a driver unable to take back control of their driving responsibilities within ten seconds. This is acutely problematic under the current approach as an ALKS performing a Minimum Risk Manoeuvre may stop in a live traffic lane.
36. Research has suggested that drivers typically need 12 to 15 seconds to take back full control of the vehicle ([Kuenh, et al., 2017](#)), but there are also other elements to consider beyond the handover time. As partners of the VENTURER trial, AXA and Burges Salmon published a [report](#) that addressed issues related to handover in Level 3 vehicles, one of the key findings was that while total response time in 'best case' conditions in a planned handover can be relatively quick (as low as 2-3 seconds), once a driver has taken back control they tend to drive overcautiously for much of a handover period extending up to 55 seconds. AXA would welcome further consideration from government of a robust protocol developed for effective handover in advance of ALKS technology being allowed to function freely on UK roads. Handover expectations must prioritise human safety above functionality.

Question 10

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

37. As outlined in paragraph 3.31, ALKS regulation does require a vehicle to stop if a collision is detected but does not provide any standards for collision detection systems. AXA is concerned that current ALKS technology will not be able to detect a minor or low-energy collision, such as a collision with a pedestrian. If ALKS technology is unable to detect a minor or low-energy collision it would not be functioning like an attentive driver. Moreover, it would provide considerable problems for insurers trying to comply with their legal obligations under AEVA as accident data would not be available. The absence of data may also undermine public trust in these vehicles at a time when we should be instilling trust as the UK transitions to a Connected and Automated Mobility future.



Question 11

Do you foresee any risks should ALKS vehicles not stop for low-energy impacts? If yes, what are these risks?

38. Yes, a low-energy impact still may cause damage to the ALKS vehicle, a third-party's vehicle or a pedestrian. Furthermore, if an ALKS vehicle cannot stop for low energy impacts it would be unable to comply with road safety laws that require a vehicle to stop at the scene of an accident. As outlined above, the absence of accident data for low-energy impacts undermines the provisions in the AEVA.

Question 12

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

39. AXA believes the Government is correct to address this question. A critical component of safe automation is ensuring that the vehicle can comply with road safety laws. To do that ALKS vehicles must be able to recognise relevant signage. One example where this could be a problem for ALKS vehicles is on the UK's smart motorways, AXA is unaware of current systems that are capable of detecting the red 'X' on a smart motorway. It would be difficult to reconcile with the principles of road safety, authorising the use of a vehicle on UK roads that cannot fully comply with UK regulations.
40. Signage and road infrastructure will also evolve over time. The Government should consider how new road infrastructure will be tested or set-up in future to avoid misbehaviours of the ALKS.

Question 13

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

41. While AXA cannot discuss the intentions of auto manufacturers, AXA is aware of automation being offered as an optional package currently, even though the software is not authorised on the UK roads network.

Question 14

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

42. AXA would have concerns about the scenario outlined. The question identifies a scenario where the DVLA database would wrongly be registering a vehicle as having ALKS functionality when the ALKS system was disabled. This scenario would most likely create confusion for relevant stakeholders including enforcement authorities. In the event of a motoring offence or accident, it may create difficulties for enforcement of road traffic laws given the significant regulatory differences for a conventional motor vehicle compared to a vehicle formally listed as automated, for example undertaking secondary tasks. The potential for this scenario is increasingly concerning over the longer-term when vehicles with ALKS systems enter the second-hand market and road infrastructure evolves. Ultimately, the DVLA database would need to be able to delineate between vehicles with ALKS functionality or automated functionality enabled and those with the functionality disabled.



Question 15

Do you agree that it is appropriate to exempt the driver from prosecution – if the vehicle comes to an unjustified stop when ALKS is engaged – by creating a further exception in the Motorway Traffic Regulations? If not, why?

43. As outlined elsewhere, the approach proposed which allows a vehicle with ALKS systems to stop in a live lane has significant safety risks attached and means the vehicle cannot fully emulate a safe and attentive driver. Therefore, stopping in a live lane should be discouraged as far as possible.
44. AXA would require further detail on how this exception in the Motorway Traffic Regulations would work in practice. If Government were to follow the outlined approach, the provisions under AEVA would enable an insurer to subrogate, either by having recourse against the liable other driver or the manufacturer of the ALKS-functional vehicle. For those provisions to be workable, the Government would need to clearly define under what circumstances a driver would be exempt from prosecution and ensure that it would be possible to evidence the vehicle has come to an 'unjustified stop' when 'no emergency or genuine mechanical defect was present'. AXA would be concerned if drivers were able to use this regulation as a defence to driving offences in scenarios where their vehicle has not come to an 'unjustified stop'.

Question 16

Do you agree that amending Rule 150 is sufficient to clarify that the driver may rely on the ALKS? If not, why?

45. As outlined throughout the consultation response, AXA disagrees with the Government's current proposed approach for ALKS technology. The technology at the minimum standards currently proposed for type approval under the regulation does not meet the criteria for safe automated driving. AXA, along with the insurance industry, has consistently argued there must be a simple and logical distinction between assisted and automated driving systems. If the approach cannot address the concerns raised elsewhere in the response, Rule 150 should not be amended.

Question 17

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

46. AXA agrees that that Motorway Traffic Regulations should mitigate against drivers failing to respond to a transition demand. AXA firmly believes that the user-in-charge when the ALKS system is operational should remain attentive and monitor the driving task in order to respond to a transition demand as quickly as possible and would welcome any change in regulations that reinforce this.

Question 18

Do you agree that the Highway Code should be changed so that drivers of ALKS must be alert to a transition demand? If not, why?

47. Yes, AXA agrees that the Highway Code should clarify the driver's residual responsibility to respond to a transition demand.



Question 19

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

48. Yes, provided the changes are appropriate for the capabilities of the new technology. AXA believes that an amendment to the Highway Code would be a sufficient approach to communicating to drivers their responsibility. The Highway Code is a critical guidance document for all motorists and the only reference point for all road users, apart from case law. This would need to be supplemented by the measures outlined elsewhere in the consultation including a consistent communication programme from government, road agencies and industry and a review of driver education, including novice driver instruction and testing.

Question 20

Do you think the driver should be allowed to perform other activities when ALKS is activated if they must only be ready to respond to a transition demand? If not, why?

49. No, not in any circumstances. AXA finds the suggestion that a 'user-in-charge' would be able to disengage from the driving task as a liberal interpretation of existing UN ALKS Regulations. There is no suggestion in existing ALKS regulations that a driver should no longer be monitoring the vehicle and can therefore undertake secondary tasks, such as responding to emails on a laptop.
50. AXA particularly disagrees with paragraph 5.3; it is not sensible to recommend drivers undertake secondary activities in order to protect against the 'user-in-charge' from falling asleep while the ALKS system is engaged. If the user-in-charge did not remain attentive and became 'unavailable', UN ALKS Regulation 6.1.3.1 clearly states that the vehicle should warn the driver and in certain circumstances action a transition demand. The vehicle should always be ready and able to monitor and detect 'user-in-charge' behaviour, therefore encouraging secondary activities for reasons of alertness should be discounted.
51. AXA firmly believes that the user-in-charge when the ALKS system is operational should remain attentive and monitor the driving task in order to respond to a transition demand as quickly as possible. While a couple of seconds may seem a short period of time for a response, the result is the vehicle travelling a significant distance.

Question 21

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

52. Considering the technological limitations of ALKS technology, AXA believes the only 'other activities' that should be reasonably allowed are those currently allowed for conventional vehicles.

Question 22

Do you think that the driver should be allowed to undertake other activities if ALKS is not listed under AEVA? If not, why? If yes, what other activities could they safely perform?

53. As per the response to question 20, AXA does not believe that the driver should be allowed to undertake other secondary activities to the driving task regardless of whether the ALKS was listed under AEVA. This is based on the current limitations of the technology and ensuring that the regulatory framework is clear and appropriate for end users.



Question 23

Do you agree that an exception should be added to enable the use of the infotainment system for activities other than driving? If not, why?

54. Allowing the use of an infotainment system for activities other than driving will increase the risk of a driver being unable to respond appropriately to a transition demand. While in-built infotainment systems would switch off when a transition demand was actioned, the driver is disengaged entirely from the driving task which may slow down the response from the driver. The safety risks in a situation where the transition demand requires an extremely quick intervention would increase significantly. Given the Minimum Risk Manoeuvre for ALKS systems is not as sophisticated as what would be expected for SAE Level 4 and 5 the risks of allowing the user-in-charge to switch-off is inherently dangerous.
55. Furthermore, as indicated elsewhere in the response, UN ALKS Regulations do not suggest that a driver should stop monitoring their vehicle and disengage entirely from the driving task. Allowing a user-in-charge to disengage in this manner would not ensure that driver attention is maintained at all times. There are certain scenarios such as the police or an enforcement agency requesting the vehicles pulls over, where a driver distracted by an infotainment system would not be able to take back control and appropriately respond. The issue outlined in the response to this question can be reduced to the technological limitations of ALKS systems, the regulatory framework in place must be sufficiently robust for the technology it will be regulating.

Question 24

Are there any activities you consider unsafe to perform through the infotainment system? If yes, what are they?

56. As per question 23.

Question 25

Do you agree with this approach? Why?

57. No, as outlined elsewhere in this consultation, AXA has serious concerns around the assumptions made regarding the technological capabilities of ALKS operating under existing UN ALKS Regulations. While AXA welcomes the ambition of Government to take the global lead on automated technology, to allow an ALKS system to operate at speeds of up to 70 mph in alignment with the proposed regulatory framework outlined in the Call for Evidence would be a misguided step and would significantly increase the risk and severity of ALKS related accidents on UK roads. Furthermore, putting in place regulation that does not fully consider the technological limitations of a vehicle system may set back progress towards the adoption of automated vehicles more widely. The impacts of the changes related to ALKS systems could challenge consumer confidence right before automated technology aligned with Levels 4 and 5 became approved and commercially available. Not only would this impact the UK's Future of Mobility project it could undermine trust in the potential of similarly advanced technologies.

If you need to get in touch regarding the information in this submission, please get in touch with AXA UK Public Affairs at ukpublicaffairs@axa-uk.co.uk