

# CENTRE FOR CONNECTED AND AUTONOMOUS VEHICLES

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

Response on behalf of DAC Beachcroft LLP

### ABOUT US

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

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

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

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

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

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

### GENERAL OBSERVATIONS

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

A rush to define ALKS as automated driving for the purposes of the Automated and Electric Vehicles Act 2018 (AEVA) runs the risk of allowing the untested and

inadequately prepared systems to cause or make worse accidents and cause sectors of the media to question the safety of automated driving systems. This, in turn, risks undermining consumer confidence and setting mass scale adoption of the technology back years.

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

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

# Overview of ALKS

## DATA STORAGE

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

Yes

### **What, in your opinion, are those barriers?**

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

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

## DRIVER EDUCATION

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

Studies going back to the 1970s show that skilled operators are better at taking control of automated systems than are unskilled operators. Those who have been properly trained make the minimum number of required actions allowing for faster and more seamless changeover.<sup>1</sup> From a theoretical perspective, we feel this is reason

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<sup>1</sup> L Bainbridge, 'Ironies of Automation', *IFAC Proceedings Volumes*, 15.6 (1982), pp 129-135.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

## Ensuring Safe Use

### **AUTOMATED AND ELECTRIC VEHICLES ACT 2018**

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

Yes

**If yes, what are those concerns?**

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

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

In particular, British insurers have stated unequivocally that '*systems that can only stop in lane should not be classified as automated.*'<sup>2</sup> This is a clear indication of three potential major problems:

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<sup>2</sup> ABI, *Defining Safe Automated Driving* (2019), p 29.

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

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

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

*The Government wants to ensure the safe and appropriate facilitation of assistive and automated driving technologies. Our aim is to maximise the social and economic benefits of these technologies without compromising safety, security or privacy. This aligns with the objectives set out in the Industrial Strategy White Paper in 2017.*<sup>3</sup>

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

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

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

Our additional concerns relate to the potential damage to public confidence in automated driving technology. We know that the public already has difficulty differentiating between ADAS and automated driving technology, no doubt made worse by manufacturers' claims and marketing, e.g. – Tesla's Autopilot system, which has been ruled to be misleading by the Munich Regional Court.<sup>4</sup> Furthermore, stories about 'self-drive' cars being involved in accidents are often detrimental to public acceptance of the technology. In its 2019 Autonomous Vehicles Readiness Index, KPMG noted, in particular for the UK, that: '*Improving consumer acceptance will be critical for the deployment of AVs. To achieve this, government and industry have a role to play in communicating the benefits of AVs and the efforts being taken to ensure their safety.*'<sup>5</sup> Classifying ALKS as automated driving before it has been adequately tested and proven to be safe would risk further reducing public acceptance.

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

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[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/707095/ccav-consultation-response.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/707095/ccav-consultation-response.pdf)

<sup>4</sup> <https://www.bbc.co.uk/news/technology-53418069>

<sup>5</sup> KPMG, 2019 Autonomous Vehicle Readiness Index, p 20.

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

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

## **MONITORING AND CONTROL TESTS**

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

No

**Why?**

### The Monitoring Test

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

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

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

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

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

### The Control Test

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

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

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

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

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

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

No

#### **Why?**

We refer to our response to the previous question.

## **RESPONDING TO AN ENFORCEMENT VEHICLE**

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

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

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

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

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

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

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

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

No

**If not, why?**

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

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

In a 2013 study, researchers found that resumption of manual control (in terms of steering behaviour in particular) continued to be erratic for up to 40 seconds after the transfer of control.<sup>6</sup>

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

This is why real world testing is crucial.

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

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

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

## **STOPPING AFTER AN INCIDENT**

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<sup>6</sup> N Merat et al, 'Transition to manual: Driver behaviour when resuming control from a highly automated vehicle', *Transportation Research Part F: Traffic Psychology and Behaviour*, Vol 27, Part B (2014), pp 274-282.

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

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

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

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

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

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

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

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

## **READING GB ROAD SIGNAGE**

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

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

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

## **REGISTRATION OF AUTOMATED VEHICLES**

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

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

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

Yes

**If yes, what are they?**

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

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

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

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

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

## Fair Delegation & Residual Responsibility

### COMING TO A STOP IN LANE

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

No

**If not, why?**

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

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

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

## **RELYING ON THE SYSTEM**

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

No

**If not, why?**

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

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

## **RESPONDING TO A TRANSITION DEMAND**

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

No

**If not, why?**

There is a real risk that by coming out of the loop during the period of time that the ALKS is engaged and the vehicle's systems are carrying out the dynamic driving task, the driver will become disengaged entirely from the dynamic driving task, such that he/she is unable to re-engage in sufficient time to avoid the vehicle from performing a Minimum Risk Manoeuvre (MRM). A University of Utah study revealed that it can take up to 27 seconds for a disengaged driver to re-engage after using, for example, a phone.<sup>7</sup>

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

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<sup>7</sup> [https://unews.utah.edu/up-to-27-seconds-of-inattention-after-talking-to-your-car-or-smart-phone/?doing\\_wp\\_cron=1600361743.3461480140686035156250](https://unews.utah.edu/up-to-27-seconds-of-inattention-after-talking-to-your-car-or-smart-phone/?doing_wp_cron=1600361743.3461480140686035156250)

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

Moreover, rather than allowing drivers to become disengaged from the driving process, government needs to inform drivers of the need for them to stay actively engaged. This is especially true as driver assist systems become more capable. There are examples of drivers of SAE Level 2 assisted vehicles behaving recklessly, and placing over-reliance on the vehicle's systems. For example, a Tesla driver was prosecuted for switching to the passenger seat on the M1 motorway while his vehicle was operating in 'autopilot' mode.<sup>8</sup> The government needs to prevent this from becoming accepted behaviour.

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

Yes

**If not, why?**

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

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

No

**If not, why?**

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

## Performing Other Activities

### OTHER ACTIVITIES

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

No

**Why?**

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

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<sup>8</sup> <https://www.bbc.co.uk/news/uk-england-beds-bucks-herts-43934504>

vehicle's systems are not capable of bringing the vehicle to a safe and controlled stop<sup>9</sup>.

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

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

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

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

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

No

#### **If not, why?**

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

#### **If yes, what activities could they safely perform?**

Not applicable.

## **THE INFOTAINMENT SYSTEM**

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

No

#### **If not, why?**

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

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

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<sup>9</sup> <https://www.dacbeachcroft.com/media/2321014/law-com-preliminary-consultation-on-avs-a-response-from-dac-beachcroft-llp.pdf>

Yes

### **If yes, what are they?**

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

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

## Use of ALKS up to 70mph

### **Do you agree with this approach?**

No

### **Why?**

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

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

## **CONCLUDING REMARKS**

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

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

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

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

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

## FOR FURTHER INFORMATION:

For further information, please contact either Peter Allchorne or Michael McCabe:

### **Peter Allchorne**

**Partner - Motor**

DAC Beachcroft

**T:** +44 (0)117 918 2275

### **Michael McCabe**

**Researcher – Strategic Litigation Unit**

DAC Beachcroft

**T:** +44 (0)20 7894 6315