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**AID GmbH response to the Law Commission of England and Wales and the Scottish Law  
Commission joint consultation on Automated Driving Vehicles:  
*Passenger Services and Public Transport (2<sup>nd</sup> Law Commission Paper)***

Dear Jessica,  
dear Automated Vehicles Team of the Law Commission,

Autonomous Intelligent Driving GmbH is a wholly owned subsidiary of AUDI AG. As a start-up, we're developing solutions for autonomous driving in urban environments, that will realize the possibility of on-demand mobility services – HARPS as you identified in the present second Law Commission Paper. Our mission is to create the universal autonomous driving system that improves the lives of millions of people. For us, the future isn't about merely making vehicles more autonomous, it's about making people more autonomous.

On the following pages we present our initial answers to the questions from the second Law Commission Paper. The consultation paper serves us as well as a source of information concerning the various legal aspects on passenger services and public transportation in the United Kingdom that you are outlining in a very concise manner. This is very much true as well for the first Law Commission Paper that I regard as a universal and structured introduction in the realm of regulations and legislation pertaining to automated driving systems in general.

At AID we are looking forward to be learning about your overall analysis of the second consultation paper.

Best regards,

Dipl.-Ing. Bogdan Bereczki



Dr. iur. Dipl.-Ing. Lennart S. Lutz



## **Operator licensing: a single national system**

### **Consultation Question 1**

Do you agree that Highly Automated Road Passenger Services (HARPS) should be subject to a single national system of operator licensing?

Yes, we agree that HARPS should be subject to a single national system of operator licensing. This would ensure a harmonized operator licensing system that can be adapted in a more efficient way than it would be the case with local operator licensing. Also, operators can be trained in a uniform way and to a single high standard.

### **Consultation Question 2**

Do you agree that there should be a national scheme of basic safety standards for operating a HARPS?

Yes, we agree that there should be a national scheme of basic safety standards for the operation of HARPS. The HARPS technology bears the potential to increase road traffic safety and regulating the operation via a national scheme would maintain a high level of safety. This ultimately generates trust with the consumer and society. The basic safety scheme would require a universal set of requirements leading ultimately to a fair competition among the service providers.

### **Consultation Question 3**

Do you agree that a HARPS operator licence should be required by any business which:

- (1) carries passengers for hire or reward;
- (2) using highly automated vehicles;
- (3) on a road;
- (4) without the services of a human driver or user-in-charge in the vehicle (or in line of sight of the vehicle)?

We agree that an operator license should be applicable to the points (1)-(4) and would suggest to define “on a road” more precisely, perhaps making use of wording like “on public roads and areas where public transportation is permitted”.

### **Consultation Question 4**

Is the concept of "carrying passengers for hire or reward" sufficiently clear?

The term is in our opinion sufficiently clear, however “free rides” may be offered in certain cases (promotional offers, State subventions etc.).

### **Consultation Question 5**

We seek views on whether there should be exemptions for community or other services which would otherwise be within the scope of HARPS operator licensing.

In terms of facilitating fair competition and a level playing field, we think that no exemptions shall be made for community or other services. Rather, special needs of community and type of services shall be considered in within the new regulations.

### Consultation Question 6

We seek views on whether there should be statutory provisions to enable the **Secretary of State** to exempt specified trials from the needs for a HARPS operator license (or to modify licence provisions for such trials).

Trials shall be conducted in accordance to the C-CAV Code of Practice that is periodically reviewed. This is different to a future mandatory safety standard that will be used for deploying HARPS. Trialing is vital for safe development of HARPS and we would advocate that idea that there should be statutory provisions to enable the Secretary of State to exempt trails from operator licensing in order to test entire HARPS concepts.

### Consultation Question 7

Do you agree that applicants for a HARPS operator licence should show that they:

- (1) are of good repute;
- (2) have appropriate financial standing;
- (3) have suitable premises, including a stable establishment in Great Britain; and
- (4) have a suitable transport manager to oversee operations?

In principle we agree the applicants for HARPS operator licenses should be able to demonstrate a sufficient level of competences. Thus, we suggest that points (1), (2) and (4) should be defined more precisely. Being of “good repute” would be probably not easy to demonstrate for a start-up, while having a “suitable transport manager to oversee operations” might not be straightforward to demonstrate neither. A suitable transport management system could be more appropriate while the operators that oversee operations are required to abide to the rules set out in the transport management system.

### Consultation Question 8

How should a transport manager demonstrate professional competence in running an automated service?

The transport manager should be required to undergo a (periodical) professional training aiming at safeguarding road traffic safety. While transport managers are not expected to engage in the dynamic driving task, they would have to fulfill other remaining tasks such as supervising the condition of the HARPS and taking strategic decisions (re-routing of the HARPS, dispatching a rescue team, etc.). The transport manager should be aided by a transport management system and be trained to use it properly.

## Consultation Question 9

Do you agree that HARPS operators should:

- (1) be under a legal obligation to ensure roadworthiness; and
- (2) demonstrate "adequate facilities or arrangements" for maintaining vehicles and operating systems "in a fit and serviceable condition"?

We certainly agree that HARPS operators should have the legal obligations described in (1) and (2) since the automated driving system that forms the basis of HARPS requires a good condition of the maintenance. The legal obligation to ensure road worthiness could be mandated by a modified scheme of periodical technical inspection (that would be different than the MOT for conventional vehicles).

## Consultation Question 10

Do you agree that legislation should be amended to clarify that HARPS operators are "users" for the purposes of insurance and roadworthiness offences?

We agree that HARPS operators are users for the purposes of insurance and roadworthiness offences, but they might not be solely responsible for road worthiness. Thus, a clarification will be needed when amending legislation in terms of insurance and road worthiness such as to determine the role of all actors implied (ADSE, vehicle manufacturer, fleet manager, operator).

## Consultation Question 11

Do you agree that HARPS operators should have a legal duty to:

- (1) insure vehicles;
- (2) supervise vehicles;
- (3) report accidents; and
- (4) take reasonable steps to safeguard passengers from assault, abuse or harassment?

We agree with the operator duties described in (1) - (4) and suggest that a traffic management system shall assist the operator with the tasks in (1) – (4). Concerning point (4), it seems necessary to further clarify "take reasonable steps". Certainly, the operator shall have the means to safeguard passengers from assault, abuse or harassment. These means could then be regulated, implemented by the HARPS developer and form part of the assessment scheme at the time of vehicle system certification.

The workload of the HARPS operator will have to be balanced when monitoring more than one HARPS vehicle.

## Consultation Question 12

Do you agree that HARPS operators should be subject to additional duties to report untoward events, together with background information about miles travelled (to put these events in context)?

In principle we agree, however at this point in time requirements for additional duties to report might be too vague. Rather, the transport management system should be able to track the vehicle and automatically store background information about e. g. miles travelled. Thus, an automated report could be generated with basic information which could help put events in context.

### **Consultation Question 13**

Do you agree that the legislation should set out broad duties, with a power to issue statutory guidance to supplement these obligations?

The legislation should set out broad duties in a clear and concise manner such that HARPS operators fully understand and delimit their obligations. Statutory guidance to supplement these obligations is an important tool to further clarify their obligations.

### **Consultation Question 14**

We invite views on whether the HARPS operator licensing agency should have powers to ensure that operators provide price information about their services. In particular, should the agency have powers to:

- (1) issue guidance about how to provide clear and comparable price information?
- (2) withdraw the licence of an operator who failed to give price information?

Regarding point (1) we think that guidance should be limited to information about fares in a clear way for customers to be able to compare prices as is the case today with public transportation. As for point (2) we believe that every operator of public transportation should have the duty to give price information. We agree that in case an operator fails to inform the customers about their prices should have their license suspended.

### **Consultation Question 15**

Who should administer the system of HARPS operator licensing?

We certainly believe that the HARPS operator licensing should be administered by an independent organization from HARPS operators/providers – like it is the case today with public transportation.

### **Consultation Question 16**

We welcome observations on how far our provisional proposals may be relevant to transport of freight.

Transport of freight by automated driving vehicles that do not require a traditional driver could be dedicated a separate section to. Many concepts outlined for HARPS will be applicable to freight transportation as well while some parts of the analysis of the Law Commission Paper 2 are not directly applicable such as safeguarding principles of passengers

or communication of prices (transportation of goods is likely more related to businesses who service their customers).

## **Privately-owned passenger-only vehicles**

### **Consultation Question 17**

Do you agree that those making "passenger-only" vehicles available to the public should be licensed as HARPS operators unless the arrangement provides a vehicle for exclusive use for an initial period of at least six months?

We agree, however we do not think that HARPS will be widely privately-owned by customers who will exclusively use these vehicles.

### **Consultation Question 18**

Do you agree that where a vehicle which is not operated by a HARPS licence-holder is authorised for use without a user-in-charge, the registered keeper should be responsible for:

- (1) insuring the vehicle;
- (2) keeping the vehicle roadworthy;
- (3) installing safety-critical updates;
- (4) reporting accidents; and
- (5) removing the vehicle if it causes an obstruction or is left in a prohibited place?

We agree that these duties must be fulfilled irrespective of who owns the vehicle. If the vehicle is not operated by a HARPS license-holder and the registered keeper owns the vehicle then the duties in (1)-(5) need to be fulfilled by the keeper. The installation of safety-critical updates for such HARPS vehicles may be different than for conventional vehicles today. In conventional vehicles the keeper (or user) may install the software updates (including but not limited to safety-critical ones) upon confirmation, whereby for HARPS it is questionable if the HARPS operator - or in the present question the keeper - shall have the duty to install the updates. The ADSE shall have the means to check if the installation of the updates has been performed as intended on the vehicles in operation.

### **Consultation Question 19**

Do you agree that there should be a statutory presumption that the registered keeper is the person who keeps the vehicle?

The concept of the registered keeper for HARPS is dependent on the ownership model. Statutory presumption shall be expressed as to account for different ownership models such as long-/short-term lease or owning indeed the vehicle. The registered keeper might not be always the keeper of the vehicle. Thus, the regulation could be drafted to account for different ownership models.

## Consultation Question 20

We seek views on whether:

- (1) a lessor should be responsible for the obligations listed in Question 18 unless they inform the lessee that the duties have been transferred.
- (2) a lessor who is registered as the keeper of a passenger-only vehicle should only be able to transfer the obligations to a lessee who is not a HARPS operator if the duties are clearly explained to the lessee and the lessee signs a statement accepting responsibility?

We agree with (1) and (2) and as a consequence of the answer in question 18. It is important to state the responsibilities and with that the transfer of duties in the leasing contract.

## Consultation Question 21

Do you agree that for passenger-only vehicles which are not operated as HARPS, the legislation should include a regulation-making power to require registered keepers to have in place a contract for supervision and maintenance services with a licensed provider?

We think that passenger-only vehicles which are neither operated as HARPS nor require a driver/user-in-charge are not going to be commonplace in the near future. Hypothetically speaking, if these types of vehicles are operated by individuals there is the need for supervision and special maintenance that differ from conventional vehicles. The legislation should in this case require registered keepers to have in place a contract for supervision and maintenance services with a licensed provider.

## Consultation Question 22

We welcome views on whether peer-to-peer lending and group arrangements relating to highly automated passenger-only vehicles might create any loopholes in our proposed system of regulation.

We are unsure on whether peer-to-peer lending and group arrangements related to HARPS might create any loopholes in the proposed legislation. Limitations of the aforementioned arrangements can be regulated in the law.

## Consultation Question 23

We seek views on whether the safety assurance agency proposed in Consultation Paper 1 should be under a duty to ensure that consumers are given the information they need to take informed decisions about the ongoing costs of owning automated vehicles.

In our view it is important that consumers have basic information about the ongoing costs of owning automated vehicles – shall they choose to own such a HARPS vehicle.

We do not think that the safety assurance agency proposed in Consultation Paper 1 should have the duty to ensure that consumers are given information about the ongoing costs of

ownership. Rather, the safety assurance agency in our understanding would deal with assessing the safety of automated vehicles that are certified on national basis (either modification of existing vehicles or small series).

Instead another agency can take the task to inform potential customers of ongoing costs associated with owning HARPS vehicles.

## **Accessibility**

### **Consultation Question 24**

We seek views on how regulation can best promote the accessibility of Highly Automated Road Passenger Services (HARPS)? In particular, we seek views on the key benefits and concerns that regulation should address.

Accessibility of HARPS is in our view crucial to societal acceptance of the technology and to the added value the service provides. HARPS is expected to augment existing mobility solutions and to provide more options to people with reduced mobility. To promote HARPS it is important to have regulation in place that leads to the certification of the technology and legislation that allows the safe operation of HARPS on public roads. Regulation and legislation for HARPS are expected to impose requirements to ensure that road traffic safety is not compromised at any given time during HARPS operation. As the operating regime of HARPS will be regulated it is expected that consumers will trust the technology and ultimately make use of it. As the HARPS technology is ever evolving, stiff regulation shall be avoided as it would stifle innovation and hinder possible optimal solutions for HARPS. Instead, high-level requirements that regulate outcomes in terms of safety shall be mandated as opposed to heavily regulating single aspects of the technology (e. g. what sensors shall be equipped on the vehicle, etc.). In order to best promote the accessibility of HARPS guidelines/code of practice can provide a nimble tool (instead of regulations) to suggest best practices that the Government would like to see followed. While regulations – especially in the range of HARPS complexity – require longer times to alter, guidelines can be adapted faster and would especially in the initiation phase of HARPS potentially render higher benefits than regulating overall aspects of the technology and its use.

### **Consultation Question 25**

We provisionally propose that the protections against discrimination and duties to make reasonable adjustments that apply to land transport service providers under section 29 of the Equality Act 2010 should be extended to operators of HARPS. Do you agree?

We agree that the protections against discrimination should be extended to operators of HARPS. The reasonable adjustments need then to be specified in more detail for HARPS operators.

### **Consultation Question 26**



We seek views on how regulation could address the challenges posed by the absence of a driver, and the crucial role drivers play in order to deliver safe and accessible journeys. For example, should provision be made for:

- (1) Ensuring passengers can board and alight vehicles?
- (2) Requiring reassurance when there is disruption and accessible information?
- (3) Expansion of support at designated points of departure and arrival?

We believe that the challenges posed by the absence of a driver need to be addressed in technical regulations leading to certification of the vehicle (via the national assurance scheme) while the operation of the HARPS will need to be legitimated by the road traffic law in first place. The absence of the traditional driver will see duties for the dynamic driving task being transferred from the human driver onto the HARPS. This transfer will have its own limitations; hence the HARPS operator will retain certain high-level duties/responsibilities but none aiming at fulfilling the dynamic driving task (otherwise we wouldn't be talking about HARPS). Dedicated legislation for HARPS operation will need to be established as well for the remaining duties of operators, licensing process(es) for HARPS operations and maintenance of the HARPS vehicle just to name a few items.

Regulating certain aspects of the intended use of HARPS may ultimately ensure that passengers make use of HARPS in an intuitive and consistent way, like they use today the underground train or a bus in a different city/country they have not visited yet. This is simply because the intended use is very similar.

We agree that providing reassurance and support in the event of disruption and accessible information about the journey is essential for users of HARPS. Regulation may mandate that consistent safety related information and operational status of the HARPS are communicated in an accessible manner to the users.

### **Consultation Question 27**

We seek views on whether national minimum standards of accessibility for HARPS should be developed and what such standards should cover.

We agree with the idea of developing national minimum standards of accessibility of HARPS and we have sympathy for developing guidance, including standard layouts, which in time could be embedded in regulation. This guideline may include minimum accessibility recommendations as we see them in conventional passenger transportation today. The recommendations should include – but not limited to - safe and monitored access to/from the vehicle, a form of identification when boarding (the system shall not allow unauthorized passengers to board), safe interior design, means to safely interact with the HARPS operator in emergency cases, concise indications in cases where a journey cannot be completed. In general, the guideline should include recommendations for accessibility as well for passengers with reduced mobility.

### **Consultation Question 28**

We seek views on whether operators of HARPS should have data reporting requirements regarding usage by older and disabled people, and what type of data may be required.

All data that is collected, processed, retained and/or reported should be proportionate and shall comply with legal requirements such as GDPR. It remains questionable if legal requirements shall be put in place regarding the usage of HARPS by older and/or disabled people. Such requirements do not exist today with conventional services. Additional requirements for data reporting to external bodies (authorities but also third-party agents) may increase exposure of information that does not seem crucial or beneficial for regulating the HARPS operation in the near future. It is important that older and/or disabled passengers are able to benefit from using HARPS and at this point we see the use of a set of recommendations in a guideline fit for purpose concerning this question. It shall not be ruled out that at a later point in time such regulatory requirements might be reasonable to implement in regulations.

## **Regulatory tools to control congestion and cruising**

### **Consultation Question 29**

We seek views on whether the law on traffic regulation orders needs specific changes to respond to the challenges of HARPS.

Chapter 7 explains the initiative of the digitalization of the TROs that we expect to bring benefits and to increase efficiency. We agree with the vision of the Law Commission that once automation takes off, traffic authorities will use these powers to make decisions about how HARPS circulate in their areas – in their own right. Certainly, HARPS developers would benefit from digital TROs that can be implemented quicker in compliance with orders issued by local highway authorities.

### **Consultation Question 30**

We welcome views on possible barriers to adapting existing parking provisions and charges to deal with the introduction of HARPS.

In particular, should section 112 of the Road Traffic Regulation Act 1984 be amended to expressly allow traffic authorities to take account of a wider range of considerations when setting parking charges for HARPS vehicles?

We understand the concern raised regarding empty cruising for HARPS and the idea of adapting existing parking provisions and charges for HARPS. However, we do not think that empty cruising will become a real issue. HARPS need to be power efficient and they make economically sense when they transport passengers. Therefore, HARPS providers will have an interest in an optimal occupancy rate paired with efficient energy consumption while limiting the number of vehicles in operation.

On the question of whether section 112 of the RTA should be amended, we think that local authorities shall be able to take account of a wider range of considerations when setting parking charges for HARPS vehicles in their areas.

### Consultation Question 31

We seek views on the appropriate balance between road pricing and parking charges to ensure the successful deployment of HARPS.

We are not in the position to judge over road pricing and parking charges to ensure the successful deployment of HARPS, but we think that these charges add proportionately to the fare of the ride. If priced in such a way that HARPS would not be competitive any longer, potential passengers may choose alternatives to HARPS.

### Consultation Question 32

Should transport authorities have new statutory powers to establish road pricing schemes specifically for HARPS?

If so, we welcome views on:

- (1) the procedure for establishing such schemes;
- (2) the permitted purposes of such schemes; and
- (3) what limits should be placed on how the funds are used.

In general, we do not see the reason why transport authorities should establish road pricing schemes specifically for HARPS. We understand the issues identified in chapter 7 but these can be minimized without the need of imposing additional road pricing schemes specifically for HARPS.

### Consultation Question 33

Do you agree that the agency that licenses HARPS operators should have flexible powers to limit the number of vehicles any given operator can use within a given operational design domain? If so, how long should the period be?

We think that the demand and supply of the HARPS technology paired with the provided service will ultimately limit the number of vehicles in a given ODD. Providing and safely operating a HARPS service presumes a certain investment that operators will need to make. Limiting the number of vehicles upfront could deter potential operators to enter that specific ODD if they see their business case not fulfilling and so would prevent these operators offering their otherwise suitable services in that specific ODD.

### Consultation Question 34

Do you agree that there should be no powers to impose quantity restrictions on the total number of HARPS operating in a given area?

We tend to agree since quantity restrictions may lead potentially to a poorer service (waiting time) and less competition among the HARPS providers that eventually result in customer dissatisfaction with HARPS technology.

## **Integrating HARPS with public transport**

### **Consultation Question 35**

Do you agree that a HARPS vehicle should only be subject to bus regulation if it:  
(1) can transport more than eight passengers at a time and charges separate fares?  
(2) does not fall within an exemption applying to group arrangements, school buses, rail replacement bus services, excursions or community groups?

We agree.

### **Consultation Question 36**

We welcome views on whether any particular issues would arise from applying bus regulation to any HARPS which transports more than eight passengers, charges separate fares and does not fall within a specific exemption.

We have HARPS in scope that are not transporting more than eight passengers for the moment. However, we think that certain obligations are in place for conventional drivers operating buses and mapping these obligations onto HARPS would require a further investigation.

### **Consultation Question 37**

We welcome views on whether a HARPS vehicle should only be treated as a local bus service if it:

- (1) runs a route with at least two fixed points; and/or
- (2) runs with some degree of regularity.

We agree.

### **Consultation Question 38**

We seek views on a new statutory scheme by which a transport authority that provides facilities for HARPS vehicles could place requirements on operators to participate in joint marketing, ticketing and information platforms.

For the moment we do not think that a new statutory scheme shall be put in place to require operators to participate in joint marketing, ticketing and information platforms. Ride-hailing services even today provide a dedicated application for mobile devices to provide their information to the customers and we believe HARPS will follow a similar approach.