

**Response to Law Commissions' second consultation on Automated Vehicles
(Law Commission Consultation Paper 245; Scottish Law Commission Discussion Paper 169)**

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Any personal email addresses and phone numbers have been excluded from this document.

Unanswered questions have been deleted from this document.

What is your name?

Stephane du Boispean

What is the name of your organisation?

Intel Corporation (and Mobileye, an Intel company)

Are you responding to this consultation in a personal capacity or on behalf of your organisation?

[Respondents chose from the following options: Personal response; Response on behalf of your organisation; Other.]

Responding on behalf of organisation

CHAPTER 3: OPERATOR LICENSING – A SINGLE NATIONAL SYSTEM

A single national scheme

Consultation Question 1 (Paragraph 3.82): Do you agree that Highly Automated Road Passenger Services (HARPS) should be subject to a single national system of operator licensing?

[Respondents chose from the following options: yes; no; other.]

Yes

The fragmentation of the licensing system for operator is not an efficient way of addressing authorisation and accreditation issues. HARPS will per definition less rely on the capability of drivers and more on the capability of the automated vehicles. It is important to ensure that a vehicle authorised to be operated by a HARPS can be used at national level.

Furthermore, the operator licensing system for HARPS will also certainly include a technical assessment. Forcing local authorities to carry out such tasks would create a disproportionate burden. It is also not certain that the required technical assessment could be carried out everywhere in a uniform manner with the proper expertise required. A single national system of operator licensing would ensure a level playing field nationally. It would also ensure that the body in charge of supervising HARPS has the expertise and knowledge needed to carry out its tasks.

The national system of operator licensing should be focussed on safety and the remote control in case of problems.

Consultation Question 2 (Paragraph 3.86): Do you agree that there should be a national scheme of basic safety standards for operating a HARPS?

[Respondents chose from the following options: yes; no; other.]

Yes

A single national licensing system should rely on uniformed provisions at national level, which should include a common definition of what it means for an automated vehicle to drive (operate) safely. Such a scheme is the ideal way to ensure that all actors offering HARPS are subject to the same rules and conditions. This is needed in order to guarantee a fair competition as well as a way for the public to commonly assess the performance of HARPS vehicles.

This national scheme of basic safety standards should, among other things, ensure that HARPS operators have a valid safety process in place. In order to do this, HARPS operators should demonstrate if and how they have put such a process in place and how they comply with the national scheme for operation safety.

CHAPTER 4: OPERATOR LICENSING –SCOPE AND CONTENT

Scope of the new scheme

Consultation Question 3 (Paragraph 4.33): 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 a human driver or user-in-charge in the vehicle (or in line of sight of the vehicle)?

[Respondents chose from the following options: yes; no; other.]

Yes

These requirements are clear and extensive enough to cover all sorts of mobility services using highly automated vehicles. They will allow a level playing field between all actors offering new mobility services.

Consultation Question 4 (Paragraph 4.34): Is the concept of “carrying passengers for hire or reward” sufficiently clear?

Yes

Exemptions

Consultation Question 5 (Paragraph 4.46): 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.

Such an exemption system should only be put in place when enough data and experience is available. This will only be the case after some time. There is no reason to start with an exemption system from the beginning.

Consultation Question 6 (Paragraph 4.54): We seek views on whether there should be statutory provisions to enable the Secretary of State to exempt specified trials from the need for a HARPS operator licence (or to modify licence provisions for such trials).

Trials and experimentation should indeed be subject to a more flexible regulatory framework in order to encourage innovation. This is especially to be expected in the early stages of the development of HARPS services. Trials are currently mostly carried out by industry actors which may be different from future operators. The legislation should give the HARPS operators the flexibility to carry out trials.

Operator requirements

Consultation Question 7 (Paragraph 4.72): 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?

[Respondents chose from the following options: yes; no; other.]

Yes

It should also be assured that HARPS operators have internal safety and security assurance systems that are duly validated according to national rules and international standards. Assessing this should be part of the licensing system.

Consultation Question 8 (Paragraph 4.73): How should a transport manager demonstrate professional competence in running an automated service?

Automated services are new in the service industry. It will therefore be challenging to demonstrate professional competence in running a service which didn't exist before.

Adequate arrangements for maintenance

Consultation Question 9 (Paragraph 4.89): 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"?

[Respondents chose from the following options: yes; no; other.]

Yes

It is difficult to imagine which actor other than the HARPS operator would have the responsibility and legal obligation to ensure roadworthiness, including by making sure that the vehicles are duly inspected according to periodical technical inspection rules.

The obligation to demonstrate adequate facilities and arrangements is also a fully understandable requirement. Customers using HARPS should be assured that HARPS operators are really able to manage their fleet with good procedures. At the same time, legal requirements for HARPS operators should keep in mind the new nature of these services. For instance, these vehicles will not necessarily operate with a driver and will not necessarily return to a base.

Consultation Question 10 (Paragraph 4.90): Do you agree that legislation should be amended to clarify that HARPS operators are “users” for the purposes of insurance and roadworthiness offences?

[Respondents chose from the following options: yes; no; other.]

Yes

HARPS operators would have to take the responsibility for ensuring that the vehicles are properly maintained, fit and serviceable during their whole life-cycle. The transfer of the responsibility to the HARPS operators is a step in the right direction.

Compliance with the law

Consultation Question 11 (Paragraph 4.124): 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?

[Respondents chose from the following options: yes; no; other.]

Yes

Those are normal and minimum requirements to expect from operators.

However, the “reasonable steps” should be defined more precisely. They should also take into account the fact that per definition, HARPS will not (necessarily) have a staff physical present in the vehicle. New and ad-hoc solutions should be created.

Consultation Question 12 (Paragraph 4.125): 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)?

[Respondents chose from the following options: yes; no; other.]

Yes

It should be ensured that incidents are reported properly and that HARPS operators take all actions to remedy to these incidents. Investigation should also for instance determine why an incident occurred and how the assurance system could prevent this in the future. This is key in ensuring acceptance from the users.

Consultation Question 13 (Paragraph 4.128): Do you agree that the legislation should set out broad duties, with a power to issue statutory guidance to supplement these obligations?

[Respondents chose from the following options: yes; no; other.]

Yes

The primary legislation should set broad and general rules and leave the creation of supplemental rules to statutory guidance. HARPS are new, and it is difficult to predict what rules will be needed before they are deployed. Once the regulator will have more experience with the everyday supervision of these services, it shall be able to adjust the regulatory requirements. This should be done through a flexible approach.

The power to issue statutory guidance complementing broad duties is what is needed. Otherwise, the legislation risks lagging technological innovation due to the discrepancy of speed which can be observed between innovation and the development of new legal requirements.

Consultation Question 14 (Paragraph 4.133): 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?

[Respondents chose from the following options: yes; no; other.]

Yes

Yes, as long as this doesn't lead to an overregulation of the pricing system and business models.

And/or (2) withdraw the licence of an operator who failed to give price information?

[Respondents chose from the following options: yes; no; other.]

No

Withdrawing the license of operators seems disproportionate in this case. In the first steps of the deployment of HARPS services, some operators could make errors due to the fact that the market is new. A threat to withdraw the license could discourage potential operators to enter the market.

Who should administer the system?

Consultation Question 15 (Paragraph 4.138): Who should administer the system of HARPS operator licensing?

A single national public body should be entrusted with the licensing of HARPS operator. This body should have experience and knowledge in the field of vehicle safety and work closely with the authority in charge of type-approval.

CHAPTER 5: PRIVATELY-OWNED PASSENGER-ONLY VEHICLES

Peer-to-peer lending

Consultation Question 22 (Paragraph 5.53): We welcome views on whether peer-to-peer lending and group arrangements relating to passenger-only vehicles might create any loopholes in our proposed system of regulation.

Yes

Peer-to-peer lending and group arrangements should not be encouraged. This would indeed create loophole in the regulation and potentially allow operators to bypass the licensing rules by hiding behind "collaborative" peer-to-peer schemes. In order to guarantee trust from consumers and a high level of quality of services, the rules should be the same for all operators.

Protecting consumers from high ongoing costs

Consultation Question 23 (Paragraph 5.60): 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.

The safety assurance agency should focus on the verification of the safety assurance systems put in place by HARPS operators. It should work closely with the type-approval authority, as the safety of vehicles used for HARPS should be assessed using transparent, industry-neutral and performance-based models for the verification of the decision-making of highly automated vehicles. In the last decades, the type-approval framework has delivered excellent results on vehicle safety. It should be used to guarantee that highly automated vehicles deliver their promise to increase road safety and reduce fatalities. Furthermore, the safety assurance agency should authorise HARPS operators to operate.

The information of consumers is the task of dedicated government bodies. Adding this work to the tasks of a new agency brings the risk to create unnecessary bureaucratic structures. We recommend using the already existing government bodies in charge of consumers for the task of informing consumers.

CHAPTER 6: ACCESSIBILITY

What we want to achieve

Consultation Question 24 (Paragraph 6.11): 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.

The development of HARPS is likely to have positive effects on the access to mobility of citizens with specific accessibility needs. Promoting the accessibility of HARPS can be done, in a first step, by setting rules which allow their development on short-term. This will have an overhaul positive effect on the accessibility of transport services.

Of course, specific rules must be put in place in order to ensure that HARPS operators are able to guarantee a real accessibility.

Core obligations under equality legislation

Consultation Question 25 (Paragraph 6.31): 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?

[Respondents chose from the following options: yes; no; other.]

Yes

HARPS operators should be subject to the same rules than other land transport services providers. At the same time, it should be noted that the use of fully automated vehicles and technology-powered applications for HARPS reduces the risk of bias and discrimination.

Specific accessibility outcomes

Consultation Question 26 (Paragraph 6.106): 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?

[Respondents chose from the following options: yes; no; other.]

Other

Any HARPS operator will have an internal procedure for passengers with special accessibility needs to board and alight vehicles. While minimum safety requirements should be met, the regulation should refrain from prescribing everyday business practices.

General accessibility requirements applicable to other transportation services could be used as best practice.

(2) Requiring reassurance when there is disruption and accessible information?

[Respondents chose from the following options: yes; no; other.]

Do not know / not answering

(3) Expansion of support at designated points of departure and arrival?

[Respondents chose from the following options: yes; no; other.]

Other

In certain environments, designated departure and arrival points will be necessary for practical and safety reasons, as it is already the case for some areas today. Where such points of departure and arrival exist, they should logically meet support requirements for passengers with special needs.

Developing national minimum accessibility standards for HARPS

Consultation Question 27 (Paragraph 6.109): We seek views on whether national minimum standards of accessibility for HARPS should be developed and what such standards should cover.

The development of HARPS is likely to have positive effects on the access to mobility of citizens with specific accessibility needs. Promoting the accessibility of HARPS can be done, in a first step, by setting rules which allow their development on short-term. This will have an overhaul positive effect on the accessibility of transport services.

Of course, specific rules must be put in place in order to ensure that HARPS operators are able to guarantee a real accessibility.

Enforcement mechanisms and feedback loops

Consultation Question 28 (Paragraph 6.124): 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.

[Respondents chose from the following options: yes; no; other.]

Yes

These data could be useful for public authorities, provided the reporting scheme allows HARPS operators to remain within the boundaries of the data protection legislation.

CHAPTER 7: REGULATORY TOOLS TO CONTROL CONGESTION AND CRUISING

Traffic regulation orders

Consultation Question 29 (Paragraph 7.23): We seek views on whether the law on traffic regulation orders needs specific changes to respond to the challenges of HARPS.

The law on traffic regulation will certainly need to be adapted in the future in order to take into account the nature of HARPS, which per definition are new to the traffic. In the first years of the deployment of these services, the legislator should focus on supporting the development of HARPS operators instead of creating directly new specific orders in the traffic law.

While it should be ensured that vehicles operated by HARPS operators comply with a set of universally defined safety principles, the traffic rules applied to these vehicles are likely to evolve in the future. In the first steps, the legislator should rather adopt a “wait and see” approach while ensuring that HARPS respect the already existing traffic rules in the interest of road safety.

Highly automated vehicles should be able to behave safely, no matter what the traffic rules and conditions are. To this end, a technology-neutral set of safety principles for automated vehicle systems should be defined. As a starting point, Mobileye, an Intel company, has published the Responsibility Sensitive Safety model, or RSS. This model formalises what it means to be a safe driver into transparent mathematical equations. RSS provides a detailed, practicable, and efficient solution for validating an automated vehicle system that results in a verifiable Safe by Design automated vehicle. RSS is centred on three fundamental pillars: 1) provable safety assurance; 2) practicable scalability; and 3) technology neutrality. A clear model for these three parameters is essential to advancing the safe future of automated vehicles in the UK and around the world.

The legislator should ensure that vehicles used for HARPS comply with a key set of universally defined principles, such as the principles defined in the RSS model:

- Do not hit the car in front (longitudinal distance)
- Do not cut in recklessly (lateral distance)
- Right of way is given, not taken
- Be cautious in areas with limited visibility
- If the vehicle can avoid a crash without causing another one, it must.

Regulating use of the kerbside

Consultation Question 30 (Paragraph 7.59): 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?

[Respondents chose from the following options: yes; no; other.]

Yes

HARPS vehicles can bring a real added value for urban mobility. During the first phase of its deployment, incentives should be put in place in order to facilitate their acceptance. This should include a favourable treatment when it comes to parking charges in order to guarantee that HARPS remain viable in the first stages of their development.

Road pricing

Consultation Question 31 (Paragraph 7.86): We seek views on the appropriate balance between road pricing and parking charges to ensure the successful deployment of HARPS.

HARPS vehicles can bring a real added value for urban mobility. During the first phase of its deployment, incentives should be put in place in order to facilitate their acceptance.

This is especially needed in order to ensure the acceptance of users.

Consultation Question 32 (Paragraph 7.87): 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.

[Respondents chose from the following options: yes; no; other.]

No

Any special road pricing scheme for HARPS would not bring significant level of revenues to the public authorities. At the same time, it would also take the risk to harm new services in the first stage of their development.

Quantity restrictions

Consultation Question 33 (Paragraph 7.97): 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 for an initial period? If so, how long should the period be?

[Respondents chose from the following options: yes; no; other.]

No

Such restrictions would bring the risk to fragment the HARPS market locally. It would achieve the opposite results of what a new legislative framework for HARPS should have as objective.

Consultation Question 34 (Paragraph 7.120): Do you agree that there should be no powers to impose quality restrictions on the total number of HARPS operating in a given area?

[Respondents chose from the following options: yes; no; other.]

Yes

The same requirements should apply nationally and be focussed mostly on vehicle safety. This is especially the case in the early stage of deployment.

At the same time, HARPS vehicles will have to be integrated in some areas where limits and restrictions on the use of motor vehicles are in place. The introduction of HARPS vehicles should aim at reducing pollution; traffic and congestion in urban areas, not increasing it.

CHAPTER 8: INTEGRATING HARPS WITH PUBLIC TRANSPORT

The current system of bus regulation: HARPS as mass transit

Consultation Question 36 (Paragraph 8.94): 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.

No particular issues are arising, HARPS falling into this category would logically have to comply with provisions for bus services operators.

Consultation Question 37 (Paragraph 8.95): 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.

These two criteria define rather well a local bus service and could be applied to HARPS operators. However, the existence of an agreement between the operator and the local authority could also be considered as an indication for the existence of a local bus service, which would give the operator special rights and obligations.

Consultation Question 39: Is there any other issue within our terms of reference which we should be considering in the course of this review?

The future regulatory framework on HARPS must ensure a level playing field for all actors. The automotive industry as we've known it is rapidly changing; and regulation must anticipate and be sufficiently flexible to enable innovation and competition while ensuring the highest safety requirements.

We expect the deployment of highly automated vehicles to start with Mobility-as-a-Service (MaaS) or HARPS. Mass-market commercialisation of consumer owned highly automated vehicles will follow. Accordingly, we support a regulatory framework that focuses on the deployment of driverless ride-hailing services in initial years, as this will enable government to oversee a more controlled and predictable Automated Vehicles deployment environment.

These initial deployments can inform future regulation of mass-market commercialization of highly automated vehicles.

Importantly, any regulatory framework must bolster public trust – another reason to focus on MaaS deployment in initial years. Public trust will be gained with regulations that ensure the highest vehicle safety standards. Mobileye and Intel support a regulatory framework that includes the demonstration of vehicle safety utilising a technology-neutral and transparent formal mathematical model that governs the behavior of a highly automated vehicle consistent with type-approval requirements and enables a prospective and retrospective analysis of a highly automated vehicle's behavior.

Indeed, to ensure the highest levels of safety for HARPS, assessing the safety of a highly automated vehicle must involve verification of the vehicle's decision-making to such a technology-neutral performance-based safety model, in addition to on-road testing and testing of the vehicle's perception system using real-world data sets.

The legislator should ensure that vehicles used for HARPS comply with a key set of universally defined safety principles:

- Do not hit the car in front (longitudinal distance).
- Do not cut in recklessly (lateral distance).
- Right of way is given, not taken.
- Be cautious in areas with limited visibility.
- If the vehicle can avoid a crash without causing another one, it must.

As a starting point, Mobileye, an Intel company, published the Responsibility-Sensitive Safety model (RSS), which formalises what safe driving should mean for automated vehicles.

Thank you for the opportunity to provide feedback to this important consultation.