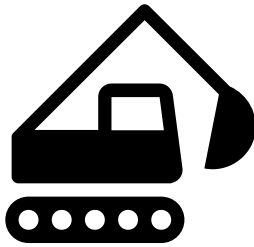
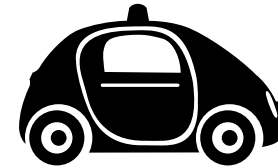
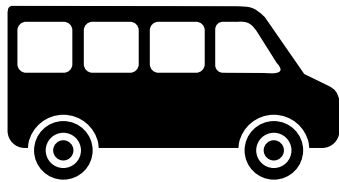




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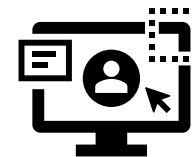
# Law Commission Regulatory Analysis and Advice to UK Government on Remote Driving



Jessica Uguccioni  
Law Commission of England and Wales  
WP1 March 2023

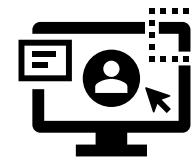
# Remote Driving:

- **Early 2022:** UK Government asks the Law Commission to consider the law and regulation of remote driving of motor vehicles on public roads and in public places.
- Issues Paper inviting views published on **24 June 2022.**
- Analysis & advice to the UK Government published **February 2023.**
- Advice is under consideration (it is not a UK view)



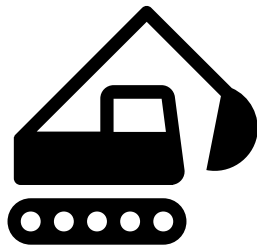
# Outline of today's presentation

- **Scope and safety** of remote driving: how it's used and difference to remote assistance of automated vehicles
- **Legality and enforcement** challenges of remote driving
- **Summary of problems with current regulation**
- **Suggested regulatory interventions** in short and longer term





# Scope and safety of remote driving



# Remote driving use cases

## “Independent” remote driving

- Where environment is dangerous.
- To get around logistical difficulties of moving drivers (eg delivering rental cars).



## Supporting automated driving

- Trials with no driver inside.
- Remote management of deployments: where an automated vehicle “gets stuck” or leaves its operational design domain.



# What is a “remote” driver?

- Focus on “beyond line-of-sight” remote drivers

An individual that is:

- (1) outside the vehicle or its trailer; and
- (2) relies on external aids (other than corrective spectacles) to see some or all safety-critical elements of the driving environment.



# Remote assistance vs “driving”

## Remote assistance

Advice to ADS Examples: object classification, confirm a safe path, trigger minimal risk manoeuvre or turn ADS on or off

## Remote driving

Monitoring with a view to immediate and safety-critical intervention

Tactical control:  
(1)Steering and/or  
(2)Braking

- Driver exercises full *or partial* dynamic control.



# Safety of remote driving

Connectivity



No sense of acceleration or road surface



Cybersecurity and terrorism risk



Detachment (a video game?)

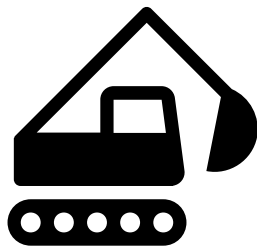
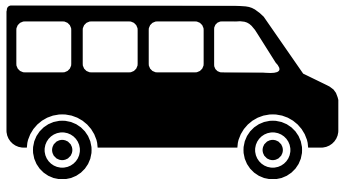


Need for training and rest breaks





# The legality and enforcement challenges of remote driving



# Vienna and Geneva Conventions

- There is **no express requirement** for a driver to be **inside a vehicle**.
- Some problematic driver road rules:
  - Article 7 of both conventions – avoid behaviour **“likely to endanger or obstruct traffic..”**
  - Articles 8 of both conventions – ability to **“control”** vehicle at all times.
  - Article 31 Vienna Convention – duty to ensure safety & prevent changes to site of road traffic accident.



# Enforcement challenges

- Domestic: how do you enforce road rules/check drivers (e.g. administering breathalyser).
- International: extradition

## Vienna Convention Article 41(2)(b): recognition of driving permits

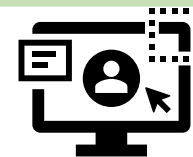
“Driving permits issued by a Contracting Party shall be recognized in the territory of another Contracting Party until this territory becomes the place of normal residence of their holder”



# Summary of problems with existing regulation

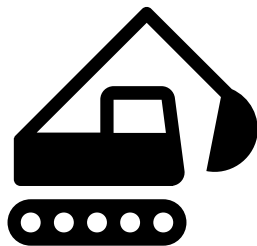
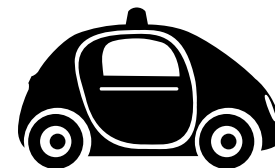
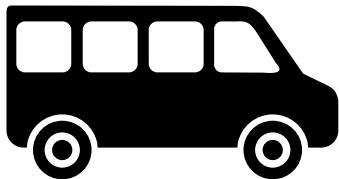
Three main issues:

- Uncertainties may have a **chilling effect**, deterring some worthwhile projects.
- **Risk of unsafe systems on the road.**
- **Lack of sufficient corporate accountability:** even if the driver has little control over key aspects of the operation they are primarily responsible under current law.





# Possible reforms: UK as a case study



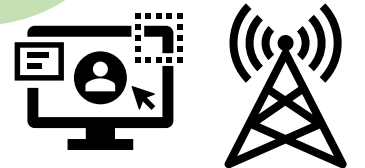
# Short-term options

- **General prohibition** on beyond line-of-sight remote driving without an in-vehicle safety driver with possibility of exemption.
- A requirement for **approval/compliance with specific requirements** to conduct for beyond line-of-sight driving
- **No remote driving from abroad** until we have international agreements



# Longer term options

- Licensing/approval for beyond line-of-sight remote driving to address safety and enforcement challenges.
- Corporate accountability: Entity for Remote Driving Operation (**ERDO**) responsible for maintaining safety:
  - Obtain licence by providing evidence system is safe to regulator.
  - Non-delegable civil duties (including ensuring safety, maintenance, insurance, reporting accidents etc).
  - Breach of duty = regulatory sanctions.
  - Remote human drivers are only criminally responsible for matters under their control.





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**Thank you**

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