

Getting up to Speed:

An Introduction to Driverless Law

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Automated systems can deal with predictable situations much more effectively than humans can,

BUT

they are not necessarily as good at dealing with “all the strange things that happen once per 10,000 or 100,000 miles of driving”

Source: RAC Report



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Fully Electrified transport

Still partially fossil fuel powered transport

Fully autonomous road transport

Transport not fully autonomous but eg. connected

Fully autonomous transport in some locations

Fossil fuel free transport in some locations

Transport supported by necessary services (eg. chargers) in some locations

Full range of all vehicles and road users (from horses to L5 AV's) everywhere

Range of Possible Futures



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"Life attracts life"

To think of city traffic problems in oversimplified terms of **pedestrians versus cars**, and to fix on the **segregation** of each as a principal goal, is to go at the problem from the wrong end."

The problem is how to cut down absolute numbers of surface vehicles and enable those that remain to work harder and more efficiently"

Jane Jacobs, "The Death and Life of Great American Cities" (1961)



“Communication is the most important aspect of CAV capability”

(Source: RAC Report)

5G and beyond



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UK Department of Transport Investment Strategy 2017

Linking CAVs with “Smart Systems” for motorways

“developing the best regulatory environment to encourage further investment and take-up” of CAV technologies

“Smart traffic management technology can reduce congestion in urban areas, using the information from millions of smart phones about people’s location and speed to make journeys better”

UK Govt Road Strategy



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2016 UK Road Traffic Accident Casualties

1,792 fatalities

24,101 seriously injured

181,384 total casualties

Source: UK Dept of Transport



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The SAE Levels

SAE level	Name	Narrative Definition	Execution of Steering and Acceleration/Deceleration	Monitoring of Driving Environment	Fallback Performance of Dynamic Driving Task	System Capability (Driving Modes)
Human driver monitors the driving environment						
0	No Automation	the full-time performance by the <i>human driver</i> of all aspects of the <i>dynamic driving task</i> , even when enhanced by warning or intervention systems	Human driver	Human driver	Human driver	n/a
1	Driver Assistance	the <i>driving mode-specific</i> execution by a driver assistance system of either steering or acceleration/deceleration using information about the driving environment and with the expectation that the <i>human driver</i> perform all remaining aspects of the <i>dynamic driving task</i>	Human driver and system	Human driver	Human driver	Some driving modes
2	Partial Automation	the <i>driving mode-specific</i> execution by one or more driver assistance systems of both steering and acceleration/deceleration using information about the driving environment and with the expectation that the <i>human driver</i> perform all remaining aspects of the <i>dynamic driving task</i>	System	Human driver	Human driver	Some driving modes
Automated driving system (“system”) monitors the driving environment						
3	Conditional Automation	the <i>driving mode-specific</i> performance by an <i>automated driving system</i> of all aspects of the dynamic driving task with the expectation that the <i>human driver</i> will respond appropriately to a <i>request to intervene</i>	System	System	Human driver	Some driving modes
4	High Automation	the <i>driving mode-specific</i> performance by an <i>automated driving system</i> of all aspects of the <i>dynamic driving task</i> , even if a <i>human driver</i> does not respond appropriately to a <i>request to intervene</i>	System	System	System	Some driving modes
5	Full Automation	the full-time performance by an <i>automated driving system</i> of all aspects of the <i>dynamic driving task</i> under all roadway and environmental conditions that can be managed by a <i>human driver</i>	System	System	System	All driving modes

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The SAE Levels

Level 0 – No Automation The human driver does everything (includes vehicles with active safety systems)

Level 1 – Driver Assistance The human driver controls most functions, but either the lateral (steering) or longitudinal (acceleration and braking) is done automatically

Level 2 – Partial Automation Both lateral and longitudinal control are automated, meaning that the "driver is disengaged from physically operating the vehicle by having her hands off the steering wheel AND foot off the pedal at the same time"

Level 3 – Conditional Driving Automation (aka Yikes!!) Drivers can completely shift "safety-critical functions" to the car, and only intervene if necessary

Level 4 – High Driving Automation The car performs all safety-critical driving functions and monitors roadway conditions within its "operational design domain" e.g. motorways

Level 5 – Full Driving Automation The car's performance equals that of a human driver, in every driving scenario

Society of Automotive Engineers



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Automated and Electric Vehicles Act 2018

Part 1 of the Act

“extends compulsory motor vehicle insurance to cover the use of automated vehicles in automated mode, so that victims (including the ‘driver’) of an accident caused by a fault in the automated vehicle itself will be covered by the compulsory insurance in place on the vehicle. The insurer would be initially liable to pay compensation to any victim, including to the driver who had legitimately handed control to the vehicle. The insurer then would have the right to recover costs from the liable party under existing common and product law.”

Source: [legislation.gov.uk](https://www.legislation.gov.uk)



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Automated and Electric Vehicles Act 2018

Section 1: Listing of automated vehicles by the Secretary of State

Requires the Secretary of State to prepare, and keep up to date, a list of all motor vehicles (“automated vehicles”) that:

- (a) are in the Secretary of State's opinion designed or adapted to be capable, in at least some circumstances or situations, of safely driving themselves, and
- (b) may lawfully be used when driving themselves, in at least some circumstances or situations, on roads or other public places in Great Britain.

Section 8: Interpretation

A vehicle is “driving itself” if it is operating in a mode in which it is not being controlled, and does not need to be monitored, by an individual.

Source: [legislation.gov.uk](https://www.legislation.gov.uk)



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Automated and Electric Vehicles Act 2018

Section 2: Liability of insurers etc where accident caused by automated vehicle

Where—

- (a) an accident is caused by an automated vehicle when driving itself on a road or other public place in Great Britain,
- (b) the vehicle is insured at the time of the accident, and
- (c) an insured person or any other person suffers damage as a result of the accident, **the insurer is liable for that damage.**

Source: [legislation.gov.uk](https://www.legislation.gov.uk)



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Automated and Electric Vehicles Act 2018

Section 3: Contributory negligence etc.

Applies contributory negligence principles to the apportioning of liability in relation to accidents involving automated vehicles, where the injured party to some extent caused the accident or the damage resulting from it.

Source: [legislation.gov.uk](https://www.legislation.gov.uk)



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Automated and Electric Vehicles Act 2018

Section 4: Accident resulting from unauthorised alterations or failure to update software

Allows insurers to exclude or limit their liability to the insured person for accidents caused by the vehicle's software being altered in breach of the insurance policy, or by safety-critical software updates not being applied. This applies subject to various conditions regarding the level of knowledge of the insured person or policyholder about the need for updates or about related insurance policy requirements.

Source: [legislation.gov.uk](https://www.legislation.gov.uk)



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Automated and Electric Vehicles Act 2018

Section 5: Right of insurer etc to claim against person responsible for accident

Establishes that any other person liable to an injured party in respect of an accident is under the same liability to the insurer.

The right of action that an insurer has by virtue of this section accrues when the claim between the injured party and the insurer is settled (by a judgment, an arbitration, or an enforceable agreement).

Source: [legislation.gov.uk](https://www.legislation.gov.uk)



The 3 C's

Causation

Contributory Negligence

Contribution

AEVA 2018



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“Caused by an AV when driving itself...”

2(1): “Where—

- (a) an accident is **caused by an automated vehicle when driving itself** on a road or other public place in Great Britain,
- (b) the vehicle is insured at the time of the accident, and
- (c) an insured person or any other person suffers damage as a result of the accident, the insurer is liable for that damage”

8(1): “a vehicle is “driving itself” if it is **operating in a mode in which it is not being controlled**, and **does not need to be monitored**, by an individual”

8(3): “(a) a reference to an accident includes a reference to **two or more causally related accidents**;

(b) a reference to an accident caused by an automated vehicle includes a reference to an accident that is **partly caused by an automated vehicle**.

AEVA Sections 2(1), 8(1) & 8(3)



Contributory Negligence: “a person other...”

6(3): “For the purposes of section 3(1), the Law Reform (Contributory Negligence) Act 1945 ... have effect as if **the behaviour of the automated vehicle were the fault of the person made liable for the damage by section 2 of this Act**”

3(1): “Where—

- (a) **an insurer or vehicle owner is liable under section 2 to a person (“the injured party”)** in respect of an accident, and
- (b) **the accident, or the damage resulting from it, was to any extent caused by the injured party,**
the amount of the liability is subject to whatever **reduction** under the Law Reform (Contributory Negligence) Act 1945 **would apply to a claim** in respect of the accident brought by the injured party **against a person other than the insurer or vehicle owner”**

AEVA Section 3 & 6(3)



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Contribution: not the 1978 Act

5 Right of insurer etc to claim against person responsible for accident

5(1): Where—

- (a) section 2 imposes on an insurer, or the owner of a vehicle, liability to a person who has suffered damage as a result of an accident (“the injured party”), and
- (b) the amount of the insurer’s or vehicle owner’s liability to the injured party in respect of the accident (including any liability not imposed by section 2) is settled, any other person liable to the injured party in respect of the accident is under the same liability to the insurer or vehicle owner.

6(5): “An insurer or vehicle owner who has a right of action against a person by virtue of section 5 does **not have a right to recover contribution from that person under the Civil Liability (Contribution) Act 1978...**”

AEVA Sections 5 & 6(5)



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The Tricky Stage: Level 3/pre-AEVA

- RTAs will still result in **negligence actions brought against drivers**
 - The **duty of care** will continue
- Problems arise when we consider the **standard of care**
 - What would a ‘**reasonable**’ driver do?
 - **Intervention** vs trusting the artificial intelligence

Common Law Negligence



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The Tricky Stage: Level 3/pre-AEVA

- Issues of causation and contributory negligence
- Complex factual/forensic evidence and projections
- These actions could be happening **outside the vehicle** – see the government's latest Code of Practice (2019)
- Application to Levels 4 and 5 notwithstanding the AEVA?

Common Law Negligence



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Product Liability – Pre-AEVA

- The Consumer Protection Act 1987 ('CPA 87')
 - Contract – express and implied terms
 - Negligence actions against manufacturers

Product Liability Pre-AEVA



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The CPA 87

Sections 2(1) and 2(2) provide that (emphasis added):

"(1)...where any damage is caused wholly or partly by a defect in a product, every person to whom subsection (2) below applies shall be liable for the damage.

(2) *This subsection applies to—*

- (a) the producer of the product;*
- (b) any person who, by putting his name on the product or using a trade mark or other distinguishing mark in relation to the product, has held himself out to be the producer of the product;*
- (c) any person who has imported the product into a member State from a place outside the member States in order, in the course of any business of his, to supply it to another."*

Product Liability Pre-AEVA



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The CPA 87 – Problems

- Five main hurdles/limitations:

- **(1) Recoverable damage** is limited to: death, personal injury and property “ordinarily intended” and “intended by the person suffering the loss or damage” to be for “private use, occupation or consumption” (section 5(3) CPA 87)
- **(2) Damage to the product itself is not covered** (section 5(2) CPA 87).
- **(3) Is software covered by the CPA?** Products are defined as “...any goods or electricity” (section 1(2) CPA 87)
- **(4) Establishing a defect.** “...if the safety of the product is not such as persons generally are entitled to expect” (section 3(1) CPA 87)
- **(5) The ‘state of the art’ defence:** ‘...the state of scientific and technical knowledge at the relevant time was not such that a producer...might be expected to have discovered the defect...’

Product Liability Pre-AEVA



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Contractual Claims

- Express terms
- Implied terms
 - Sale of Goods Act 1979 (SOGA)
 - Supply of Goods and Services Act 1982 (SGSA)
 - Consumer Rights Act 2015 (CRA)
 - Satisfactory quality
 - Fit for purpose
 - Safe and durable
- Contracts (Rights of Third Parties) Act 1999

Product Liability Pre-AEVA



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Negligence

- Duty of care – Donoghue v Stevenson
- Breach of duty – questions of what was reasonable
 - Causation - factual
 - Causation – legal (remoteness)
 - Contributory negligence
- Beware express contractual terms excluding liability

Product Liability Pre-AEVA



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Product Liability – Post-AEVA

- Will the AEVA make all these problems disappear?

Section 5: Right of insurer etc to claim against person responsible for accident
Establishes that any other person liable to an injured party in respect of an accident is under the same liability to the insurer.

Source: [legislation.gov.uk](https://www.legislation.gov.uk)

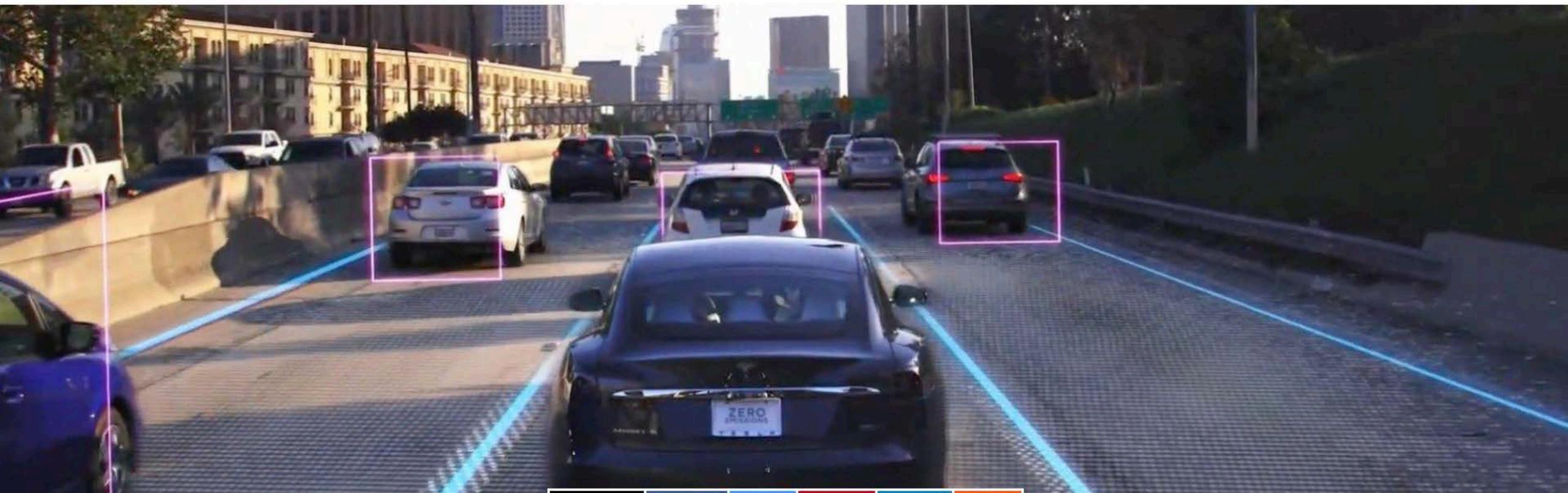


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TODAY

Elon Musk: Tesla will stop selling cars [Update: at consumer pricing] once full self-driving is solved

Jameson Dow - Jul. 8th 2019 12:34 am ET

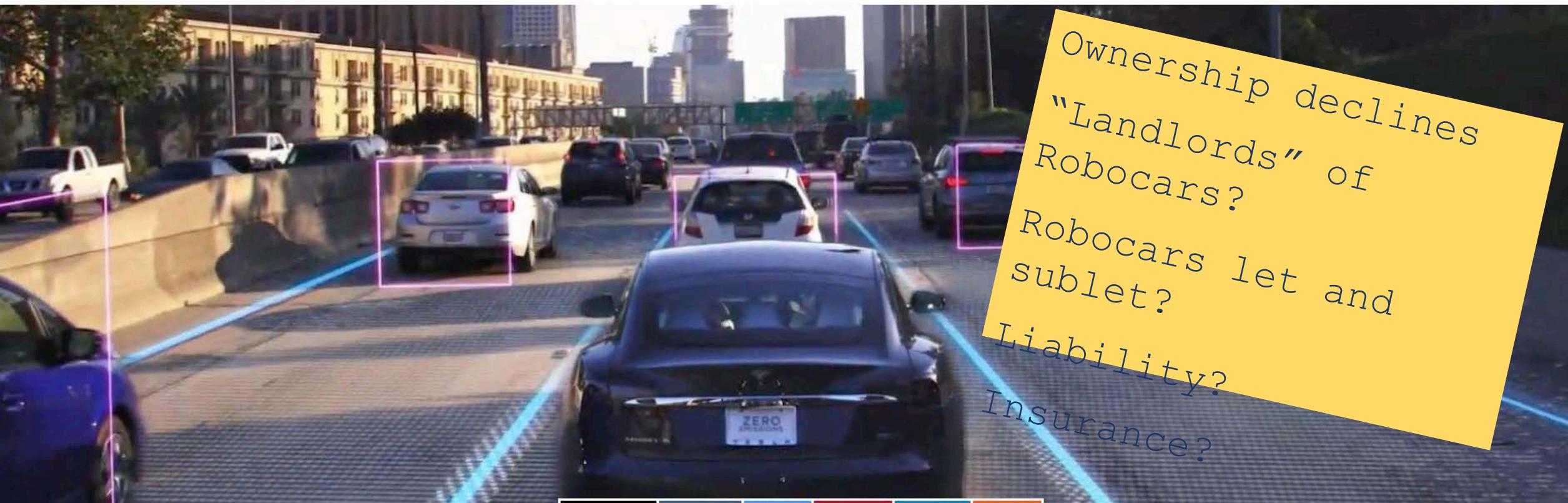
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Tesla CEO Elon Musk has been talking a lot about [Tesla Network](#) lately, part of Tesla's "Master Plan, Part Deux" which will enable Tesla cars with full self-driving hardware to operate as autonomous robotaxis to generate revenue for owners and for Tesla itself.

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*Thank you.
Any Questions?*

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