



Autonomous vehicles and autonomous lethal weapons

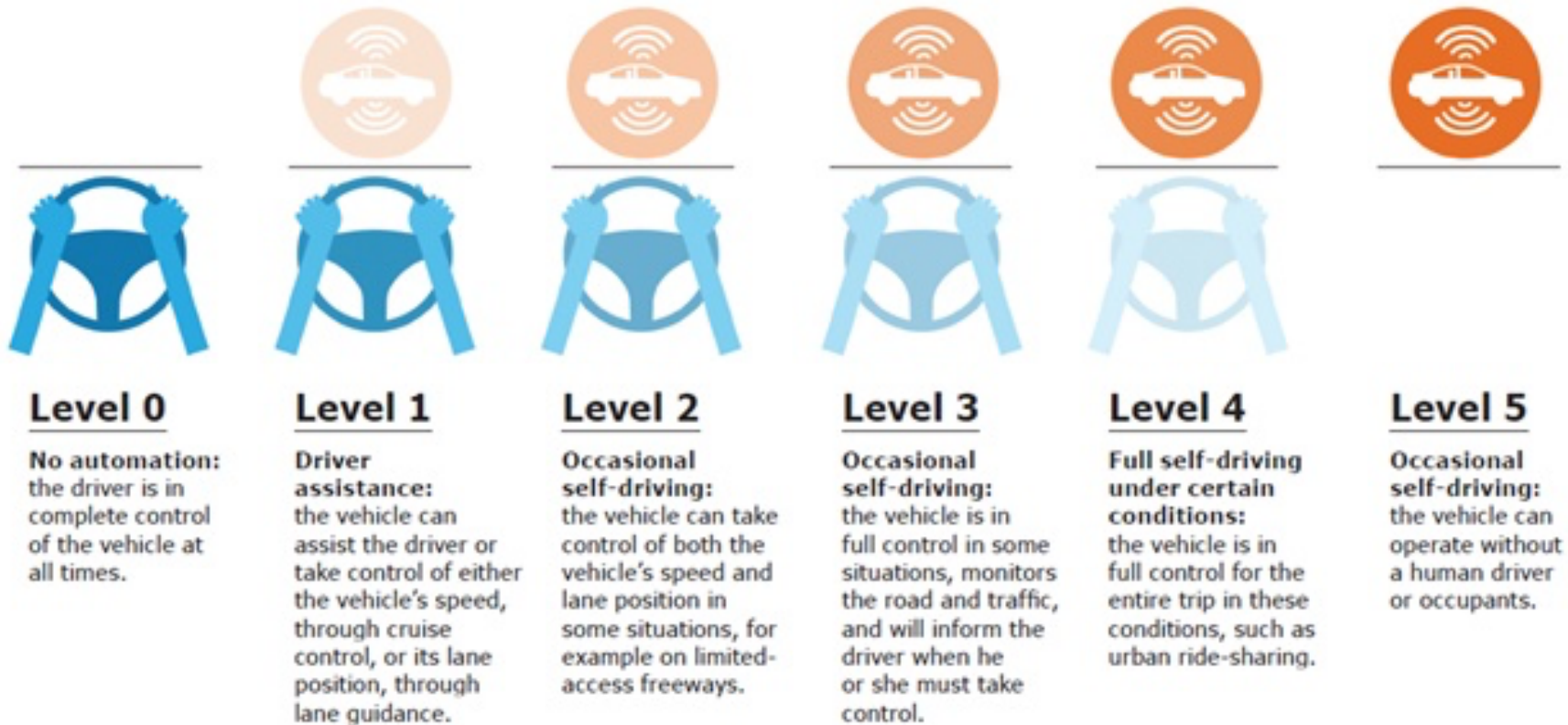
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Autonomous vehicles

Five Levels of Vehicle Autonomy





Vienna Convention of 8 November 1968 on Road Traffic

ARTICLE 8 - Drivers

1. Every moving vehicle or combination of vehicles shall have a driver.

....

5. Every driver shall at all times be able to control his vehicle or to guide his animals.

ARTICLE 13 – Speed and distance between vehicles

1. Every driver of a vehicle shall in all circumstances have his vehicle under control so as to be able to exercise due and proper care and to be at all times in a position to perform all manoeuvres required of him.

Questions

- Is a « driver » necessarily human?
- Must the driver necessarily be inside the car ?
- What does the term « control » mean?

<https://www.uno.org/fileadmin/DAM/trans/conventn/crt1968e.pdf>

Une école de l'IVT

Vienna Convention negotiations

UNECE paves the way for automated driving by updating UN international convention

Published: 23 March 2016

A major regulatory milestone towards the deployment of automated vehicle technologies will be attained on 23 March 2016 with the entry into force of [amendments to the 1968 Vienna Convention on Road Traffic](#). As of that date, automated driving technologies transferring driving tasks to the vehicle will be explicitly allowed in traffic, provided that these technologies are in conformity with the United Nations vehicle regulations or can be overridden or switched off by the driver.



French law on experimenting autonomous vehicles

Ordonnance n° 2016-1057 of 3 August 2016

Article 1

Permits experimentation of delegated driving.

But the « driver » (who may be outside the vehicle) must be able to take control of the vehicle at all times and supervise.



Should we dispense with human drivers?

First approach: *eliminate human drivers altogether (Waymo et Tesla)*

Second approach : *support the human driver (Toyota)*

Under the second approach, the goal of systems should be to avoid accidents rather than replace human drivers.

(Source : OCDE, Artificial Intelligence in Society, 2019, p. 51)



The Locomotive Act of 1865

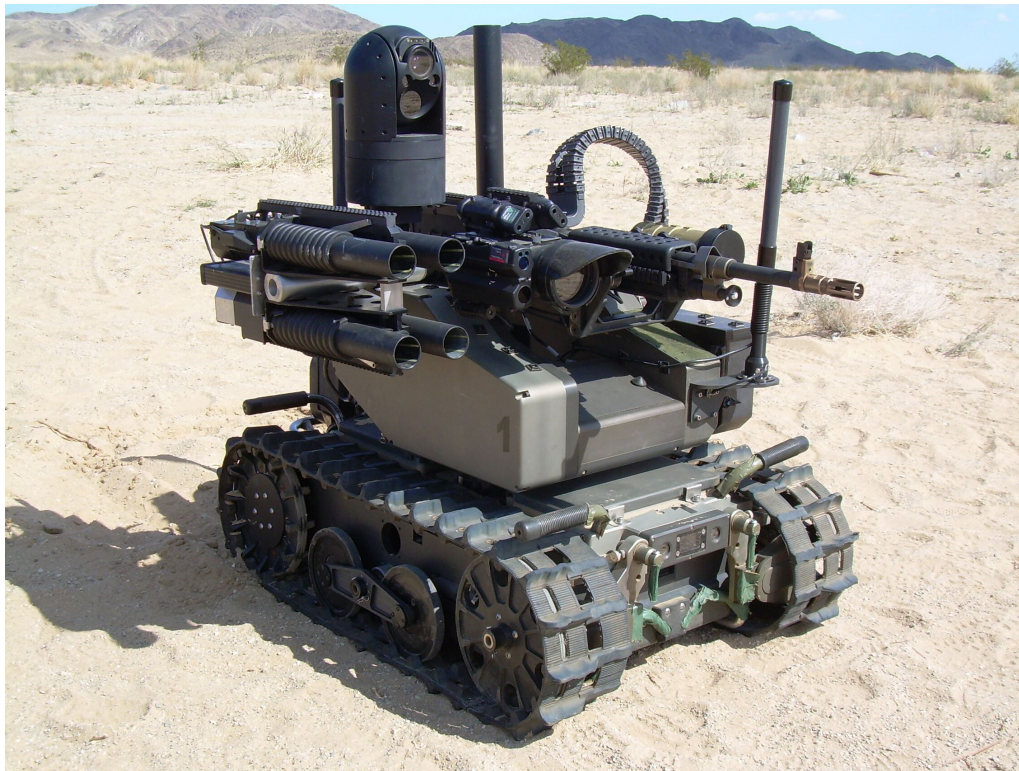




Autonomous vehicles and ethical dilemmas

- <https://www.youtube.com/watch?v=ixloDYVfKA0>

Autonomous lethal weapons



What does the law say?

The Geneva Conventions and their additional protocols

(Protocol I)

Article 35 - Basic rules

1. In any armed conflict, the right of the Parties to the conflict to choose methods or means of warfare is not unlimited.
2. It is prohibited to employ weapons, projectiles and material and methods of warfare of a nature to cause superfluous injury or unnecessary suffering.
3. It is prohibited to employ methods or means of warfare which are intended, or may be expected, to cause widespread, long-term and severe damage to the natural environment.

Article 48 : Basic rule

In order to ensure respect for and protection of the civilian population and civilian objects, the Parties to the conflict shall at all times distinguish between the civilian population and combatants and between civilian objects and military objectives and accordingly shall direct their operations only against military objectives.

Should Autonomous Lethal Weapons be Banned?

Conclusions of the [Special Rapporteur of the UN](#)

31. Some argue that robots could never meet the requirements of international humanitarian law (IHL) or international human rights law (IHRL), and that, even if they could, as a matter of principle robots should not be granted the power to decide who should live and die. These critics call for a blanket ban on their development, production and use. To others, such technological advances – if kept within proper bounds – represent legitimate military advances, which could in some respects even help to make armed conflict more humane and save lives on all sides. According to this argument, to reject this technology altogether could amount to not properly protecting life.



The point of vue of the « Future of life Institute »

- <https://www.youtube.com/watch?v=LVwD-IZosJE>