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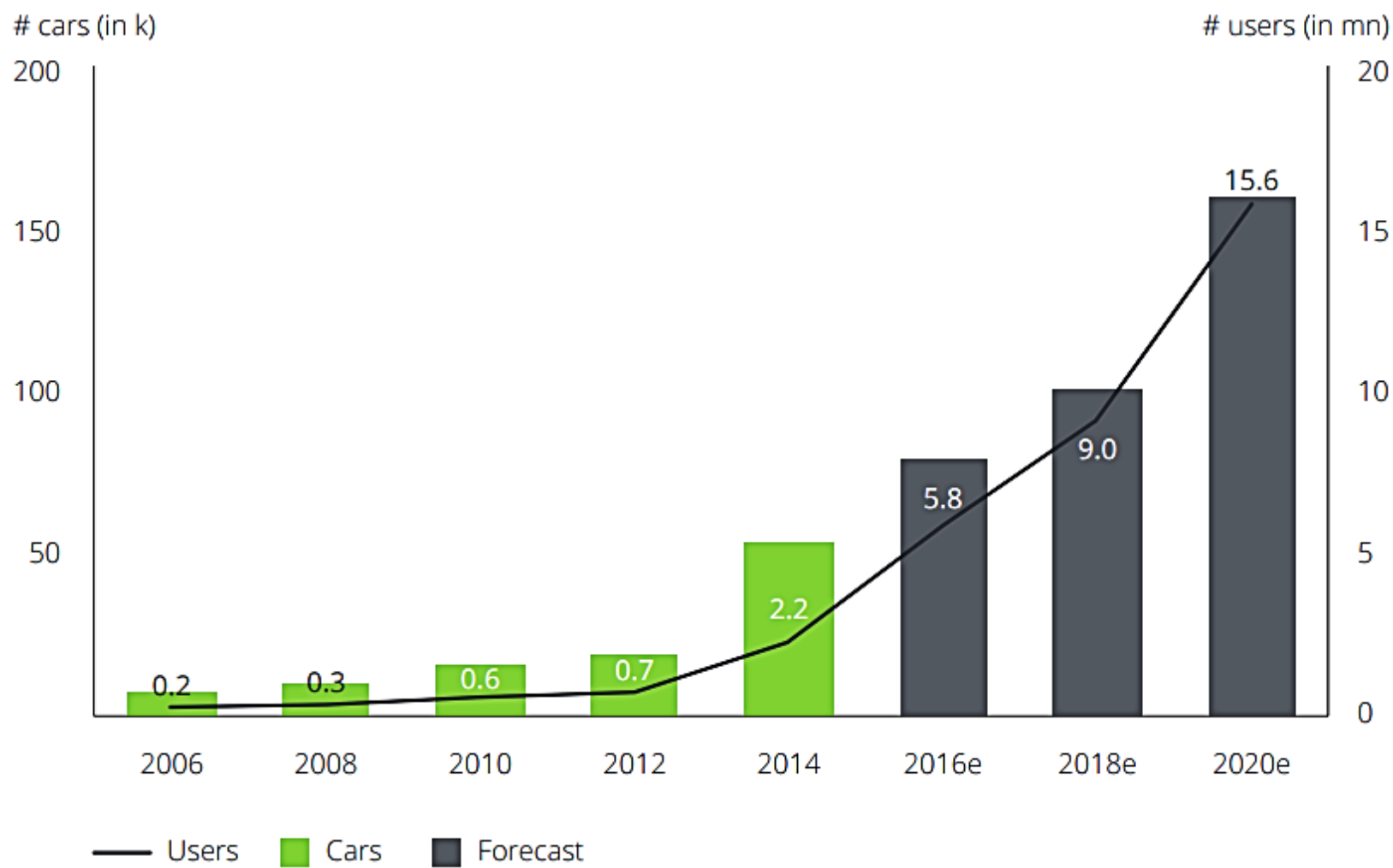
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*Automated cars and new technologies impacts on
italian and european motor insurance*

- 1. Introduction**
- 2. Autonomous and semi-autonomous vehicles**
- 3. Civil liability and motor insurance related to AVs**
- 4. Product liability issues and european regulation**
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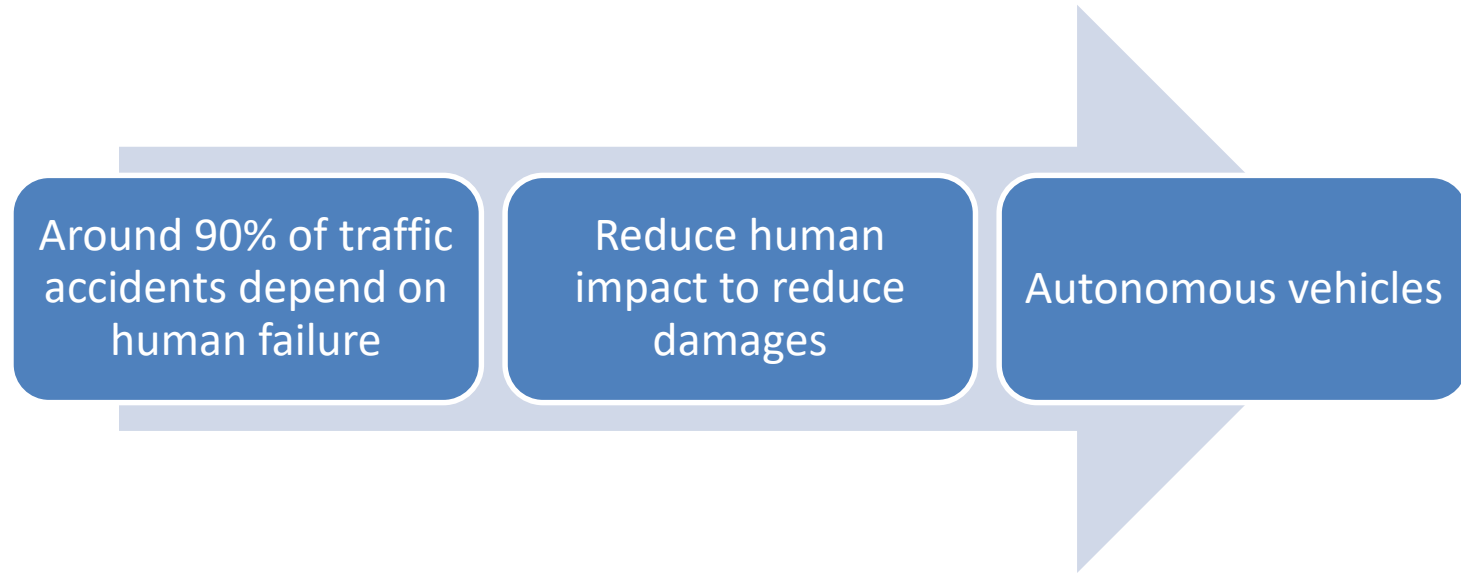
1) Introduction

- New technologies impact on different fields
- Mobility: smart roads, smart cities, autonomous and connected vehicles
- Sharing mobility

Car sharing market development for Europe* (2006–2020):

*Countries in Europe: Germany, UK, France, Italy, Switzerland, Austria, Netherlands, Sweden, Spain, Belgium, Norway, Denmark, Sweden

2) Autonomous and semi autonomous vehicles



Almost 90% of traffic accidents are to be attributed to human failure.

In EU around 50.000 people are killed in traffic accidents every year.

Huge economical loss.

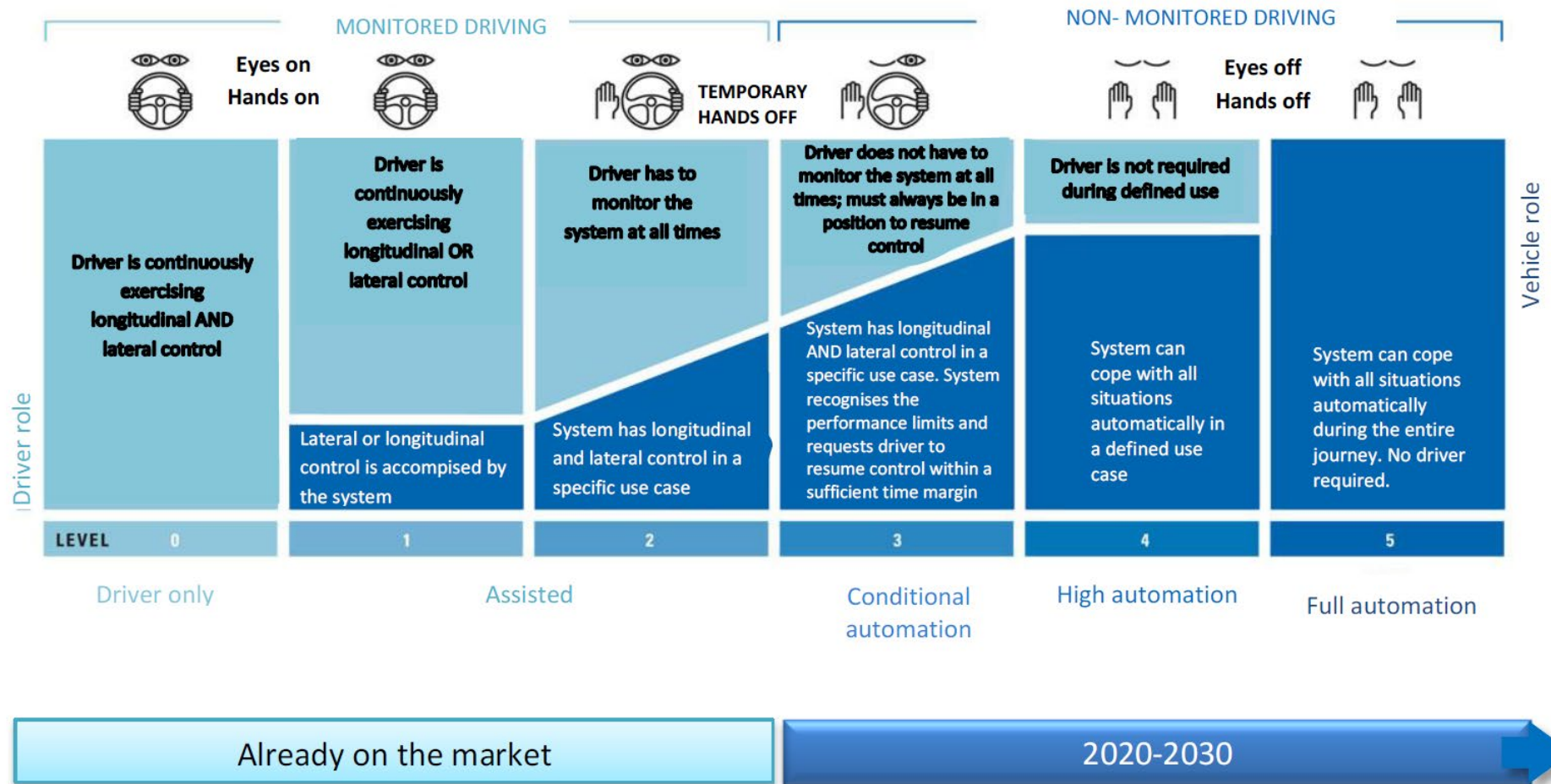


Commuters waste a **full week** of their lives in traffic each year.



Waste of **17 hours a year**
searching for parking
spots

Figure: Different levels of automation (source: Society of Automotive Engineers-SAE¹¹)

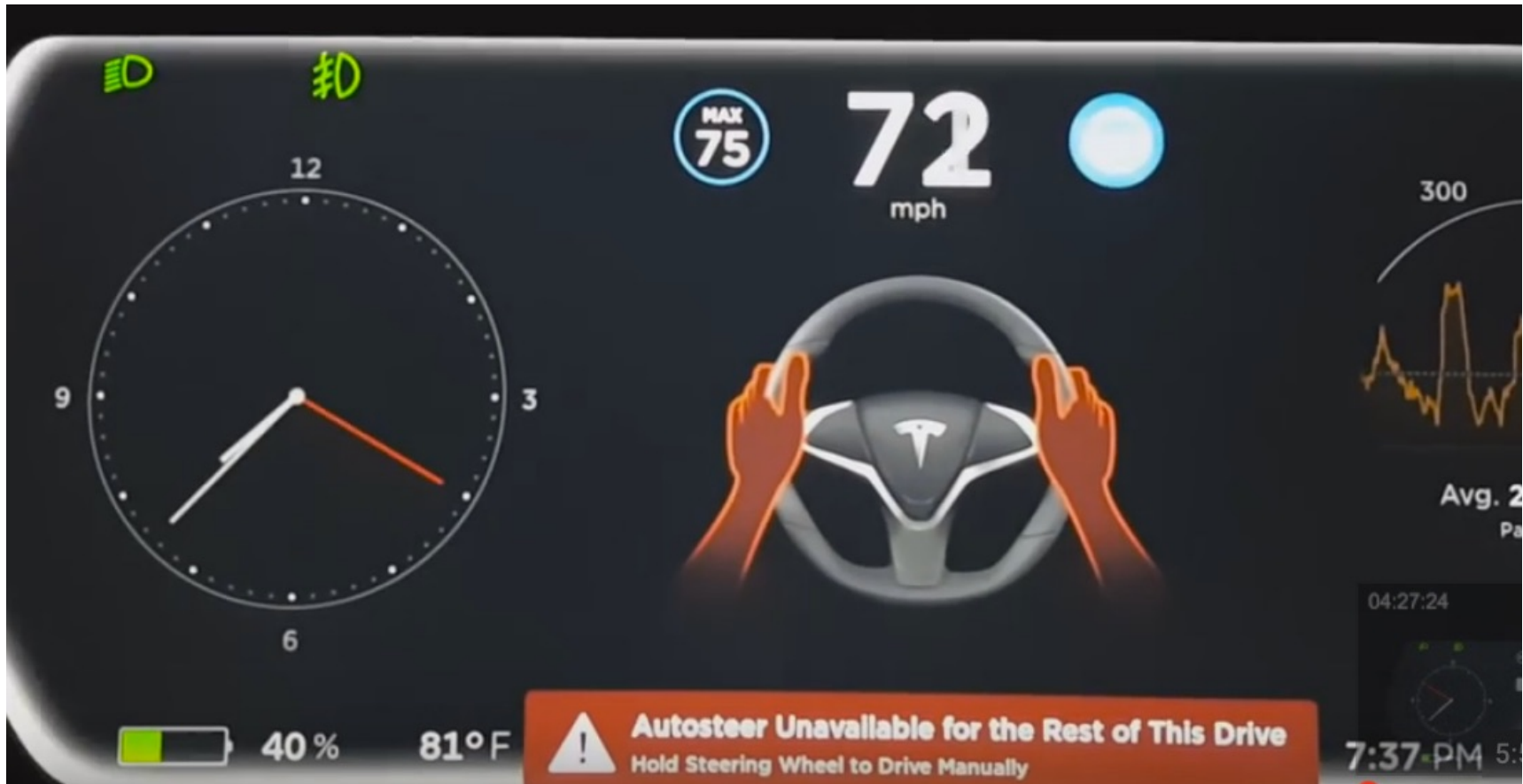


We already are on the path to Full Automation

- IoT (Internet of Things): Connected vehicles and internet based services
- ADAS (Advanced Drivers Assistance Systems) are always more common on new cars. Some of them became compulsory (ABS, ESP...)
- Even the most advanced ADAS still need the physical presence and attention of a human driver behind the steering wheel
- Human driver is not the only one to determine a vehicle behaviour on the road
- Higher safety level on public roads







- **Principal issues related to AVs diffusion:**
 - 1) Authorization to circulate on public roads (standards)
 - 2) Personal Data Protection/Cybersecurity
 - 3) Liability in case of accidents
 - 4) Motor Insurance

3) Civil liability and motor insurance related to AVs

- Automation can reduce human errors, but in some circumstances damages cannot be avoided
- When an accident occurs, who pays for the damage compensation?

The presence of an automated choice affects the process of determining the event and the effect of the choice.

*Analysis of the interaction between man and machine in causing the event.
(Causal nexus)*

Machine error doesn't always depend on a production error. 'AI' products can take a wrong choice even when not defective.

Art. 2054 Civil Code – CIRCULATION OF VEHICLES

1. The driver of a vehicle that is not guided by rails is liable for the damage caused to persons or to property by operation of the vehicle unless he proves that he did all that was possible to avoid the damage.
2. In the case of collision of vehicles, it is presumed, until proof to the contrary is offered, that each driver contributed equally toward causing the damage suffered by each vehicle.
3. The owner of the vehicle, or in his place the usufructuary or purchaser with reservation of ownership, is liable jointly and severally with the operator of the vehicle, unless he proves that the vehicle was being operated against his will.
4. In any case, the persons indicated in the preceding paragraphs are liable for damage arising from defects in the manufacture or maintenance of the vehicle.

- **AVs liability could be addressed to many different subjects:**
- Owner/user of the vehicle
- Producer of the vehicle or the Producer of the installed software and automation algorithms
- Managers and collectors of information and data shared by the vehicles (smart cities, smart cars)
- Suppliers of car maintenance and services

- Protection of victims of traffic accidents:

➤ Strict liability ?

➤ No-fault insurance ?

➤ Guarantee fund ?

There is the need to preserve one of the most important function of tort law:

DETERRENCE

4) Product liability issues and european regulation

EUROPEAN UNION:

Need for a common legislative framework

- Motor Insurance Directive 2009/103/EC
- Product Liability Directive 85/374/EEC
(2018 European Commission Report)

The Product Liability Regime

The manufacturer has to compensate persons suffering injury or damage to private property from defects in a product.

- The software installed in an AV can be considered a product?
- In case of an accident can it be considered defective?

Defect: «A product is defective when it does not provide the safety which a persons is entitled to expect»

Risks defence: «The state of scientific and technical knowledge at the time when he put the product into circulation was not such as to enable the existence of the defect to be discovered»

- **UK – Automated and Electric Vehicles Act (2018)**

2 Liability of insurers etc where accident caused by automated vehicle

(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.

The insurer is always liable for the damage. The victim can be the driver as well as any other passenger or road user.

- **Germany: Road traffic Act (Straßenverkehrsgesetz)**
- Amended in july 2017 -

II. Liability

§ 7 Liability of the owner, unauthorized vehicle operation

(1) If, during the operation of a motor vehicle or a trailer intended to be carried by a motor vehicle, a person is killed, the body or health of a person is injured or a property is damaged, the owner shall be obliged to the injured person to replace the resulting damage.

(2) Compensation is excluded if the accident is caused by force majeure.

§ 1b Rights and responsibilities of the driver when using highly or fully automated driving functions

(1) The driver of the vehicle may turn away his attention from the traffic and the vehicle control when the vehicle is controlled by means of highly or fully automated driving functions according to § 1a; he must remain sufficiently responsive that he can fulfill his duty under paragraph (2) at any time.

(2) The driver is obliged to take over the vehicle control immediately,

1. when the highly or fully automated system asks him to do so or
2. if he recognizes or, on the basis of obvious circumstances, realizes that the prerequisites for the intended use of the highly or fully automated driving functions no longer exist.

Driver is not allowed to turn his attention completely away from the traffic.

Automation must be overridden or deactivated at any time by the vehicle operator.

4) Conclusion

Future is not so far...

ARE WE GOING TO BE READY?



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