Prioritising the Safety Potential of Automated Driving

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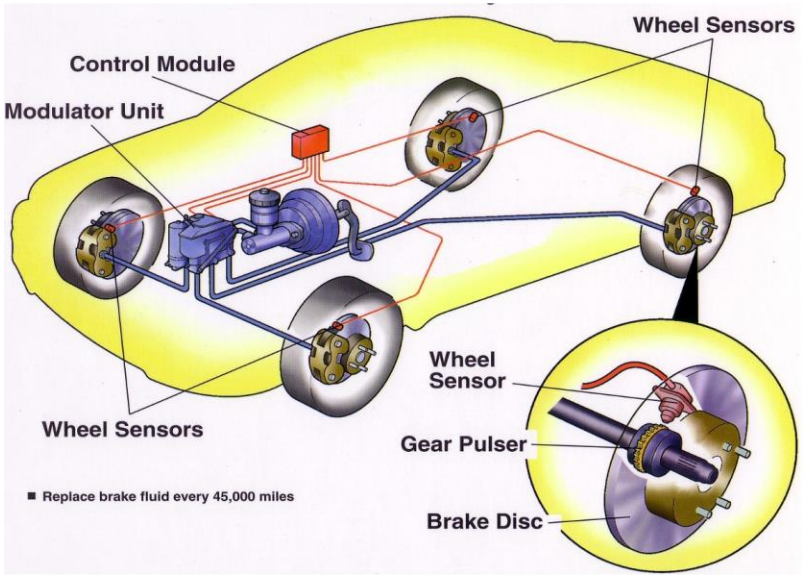
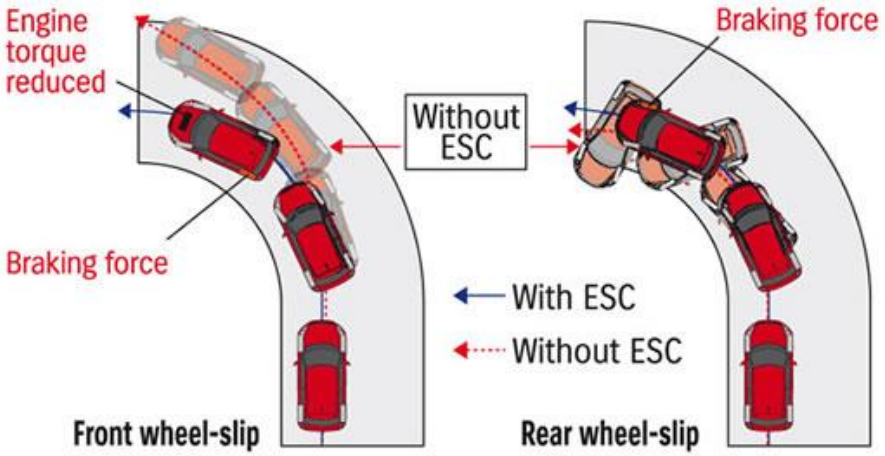
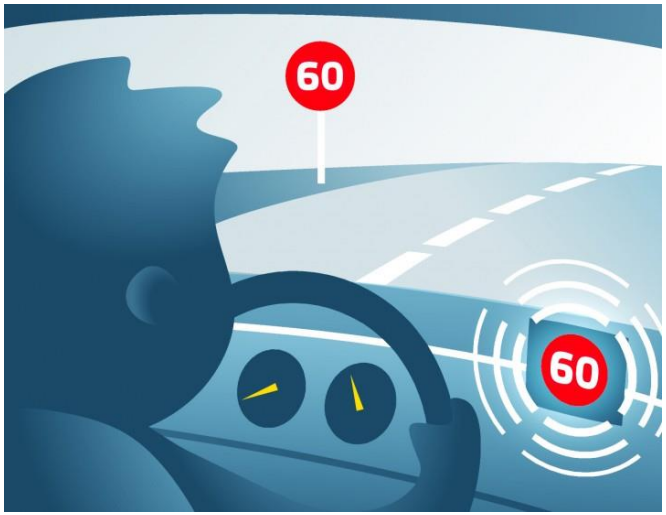
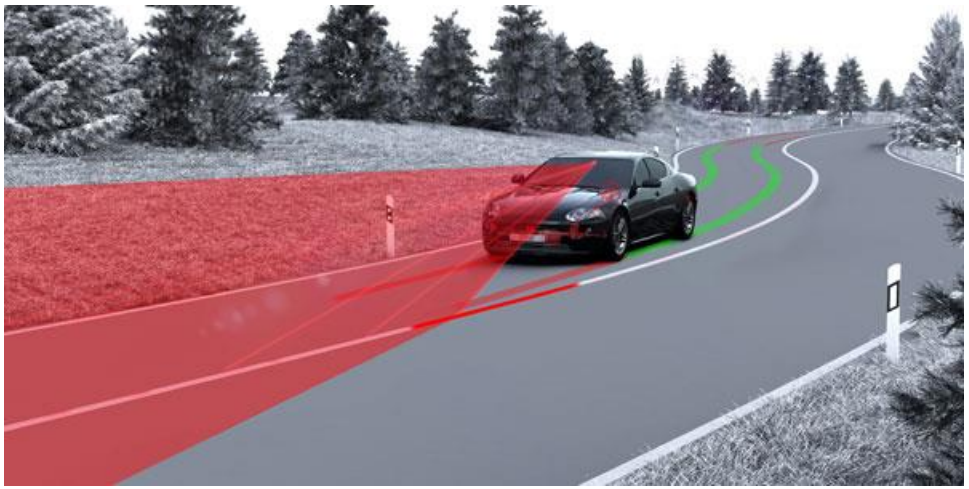
European Transport Safety Council

From Automated Driving…



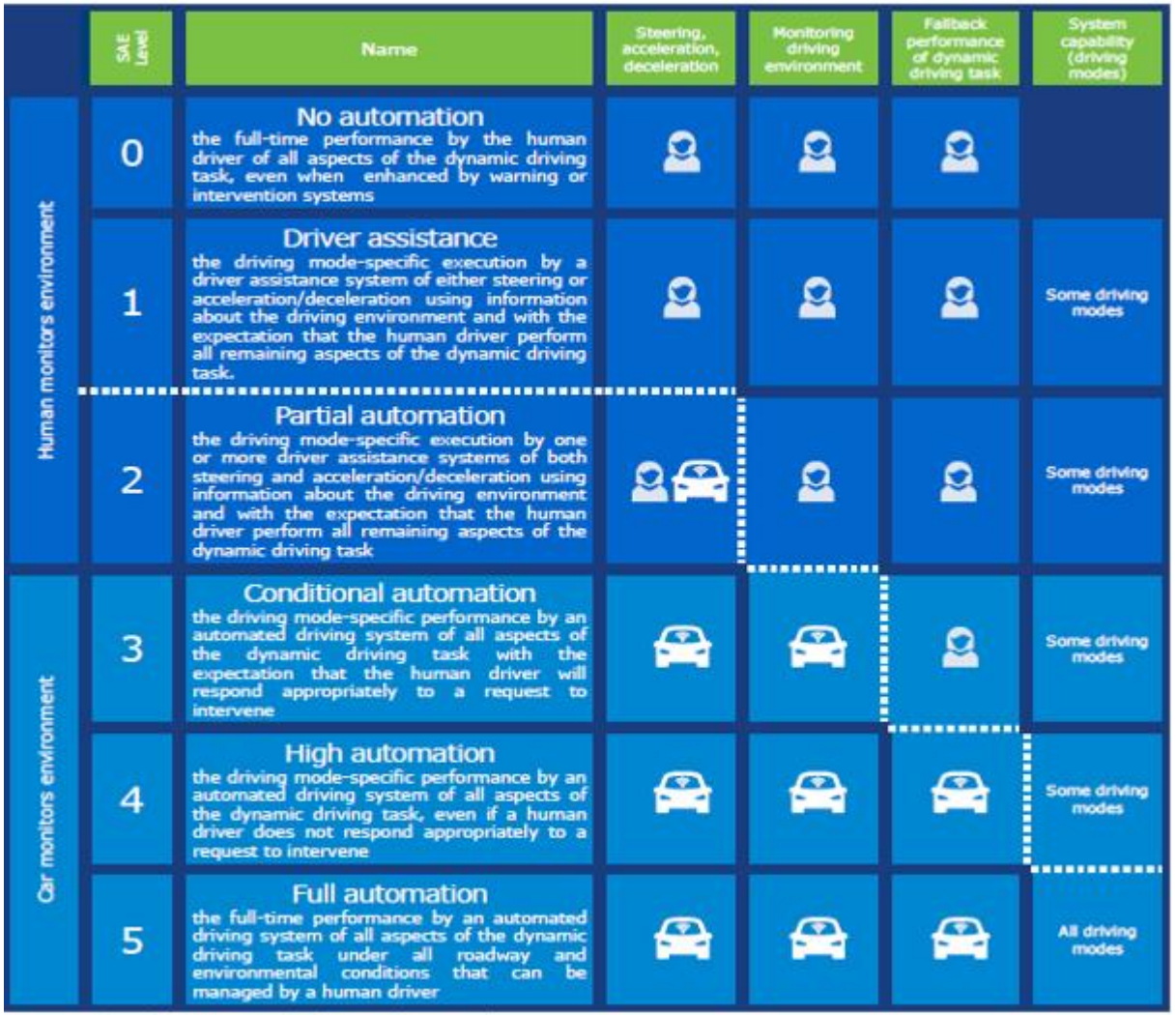






…to Autonomous Driving

Levels of Driving Automation



Source: Adapted from SAE Standard J3016 (SAE, 2014).

Regulatory framework: 1968 Vienna Convention

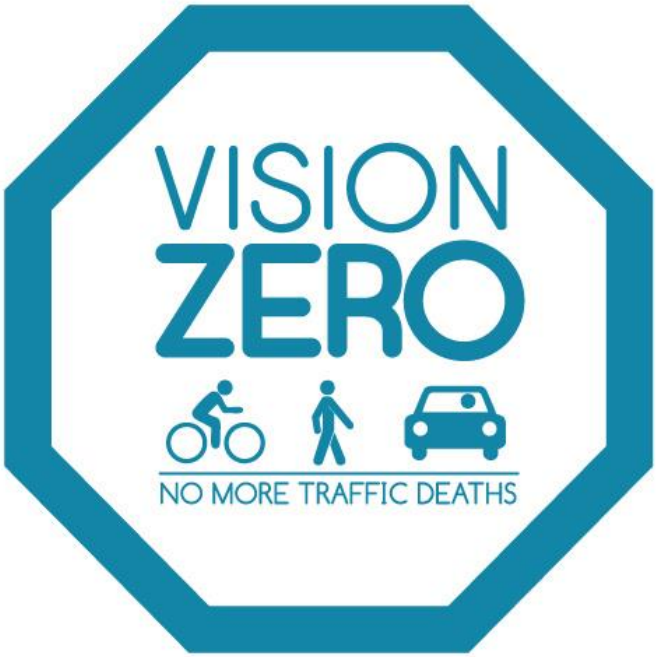
EU Regulatory Framework

- Gear 2030 and Roadmap
- EU Vehicle Safety Regulations
- Motor Insurance Directive
- ITS Directive
- Infrastructure Safety Directive
- Data Protection Directives
- Others…?

A Driving Test for Automated Vehicles

Potential safety benefits

1) Reaching Vision Zero in 2050?



ERTRAC: « safety and the potential to reduce accidents caused by human error » is one of the main drivers for higher levels of automated driving

2) Less Chance for Human Error

3) High Risk Group Support?

Changes to Driver training will be needed

Potential safety challenges

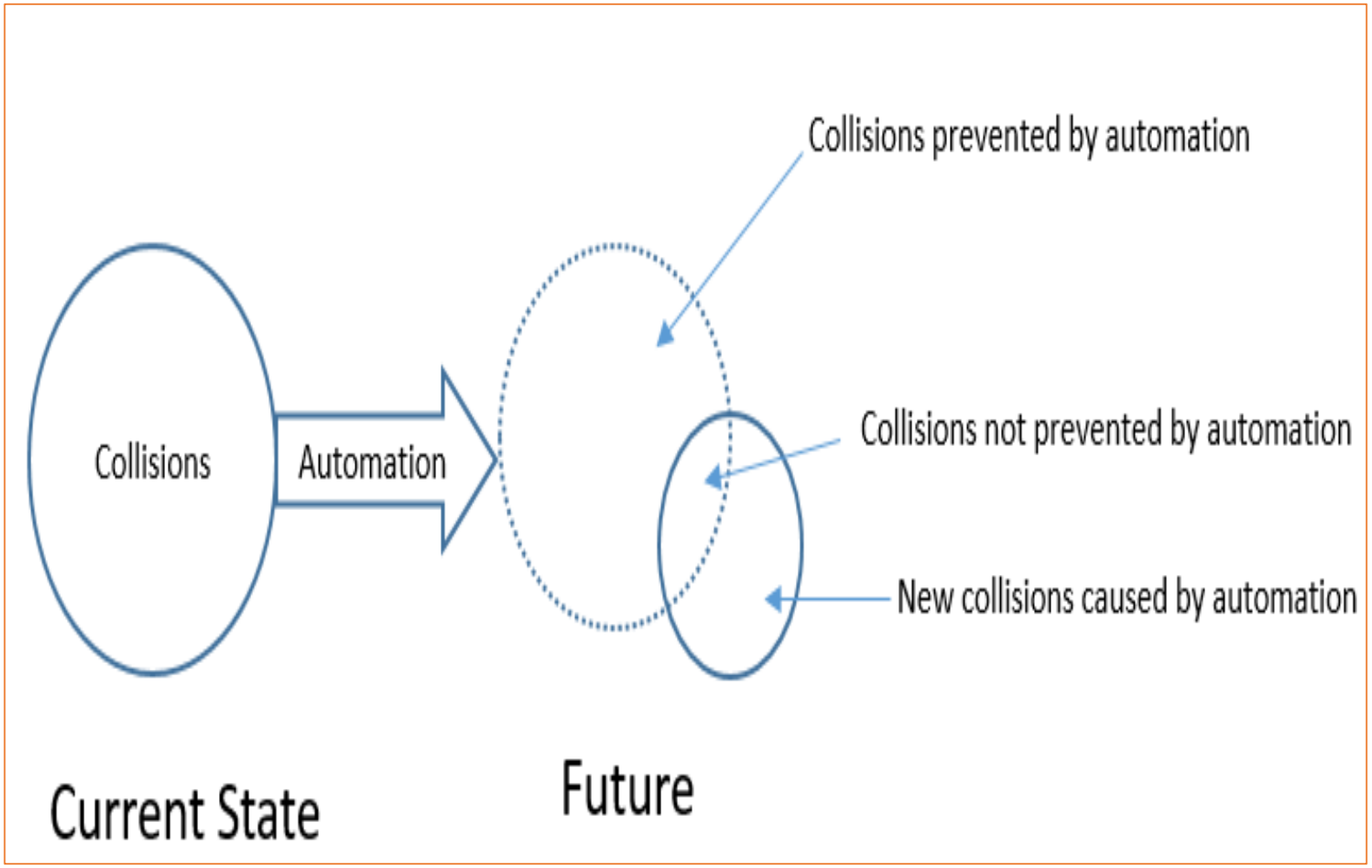
Evidence of Safety benefits?

- “Self-driving vehicles were involved in more crashes per million miles travelled than conventional vehicles.”* Sivak, University of Michigan (2015)
- “Self-driving cars were involved in fewer crashes than normal cars especially for more severe crashes.” Blanco Virginia Tech (for google)

We need more research especially in real-world driving

We need full openness and transparency in disclosing collision data

New Collision Types?



Automated vs. Non-Automated

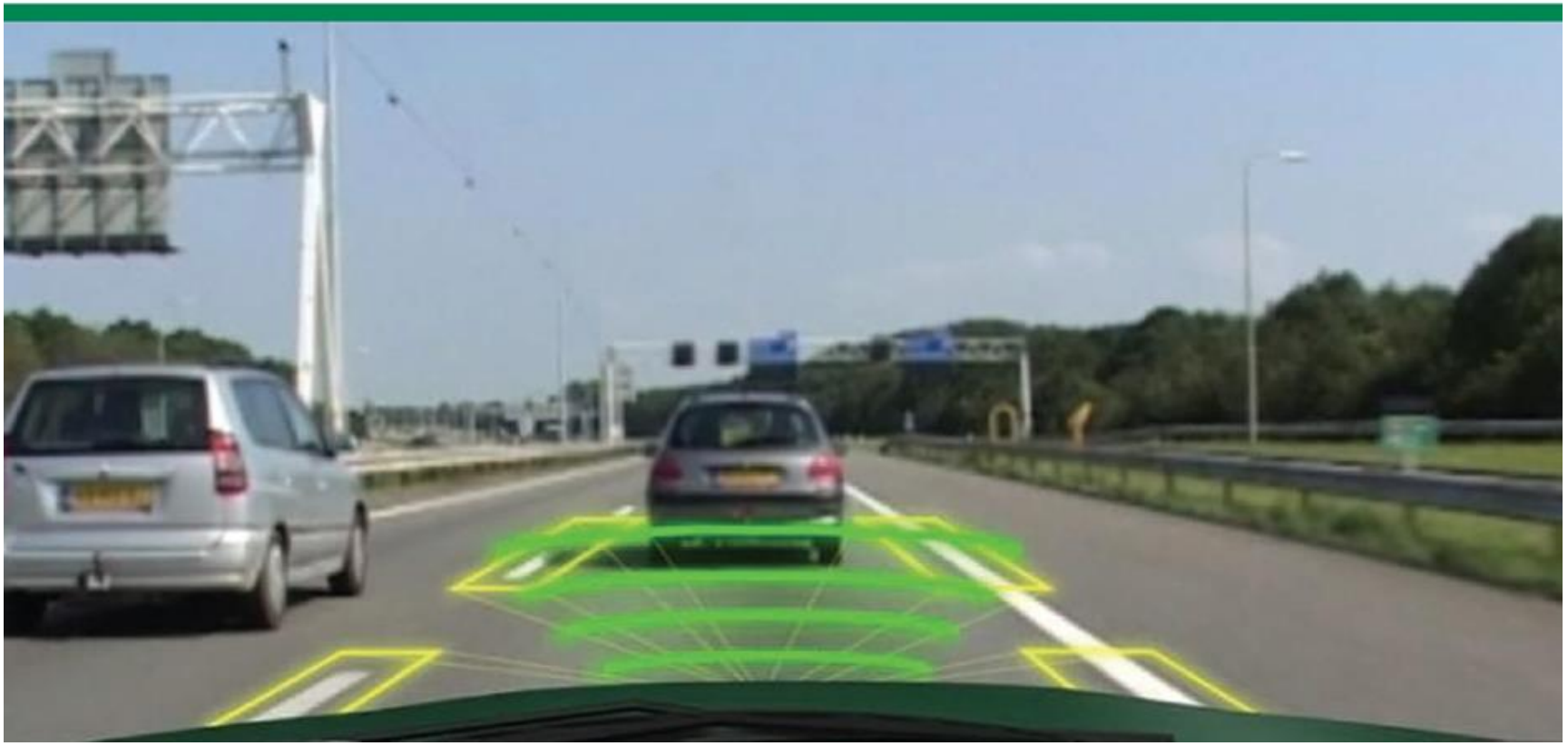
- Safety impacts during the transitional phase?

Automated and Unprotected Users

Infrastructure

ROADS THAT CARS CAN READ

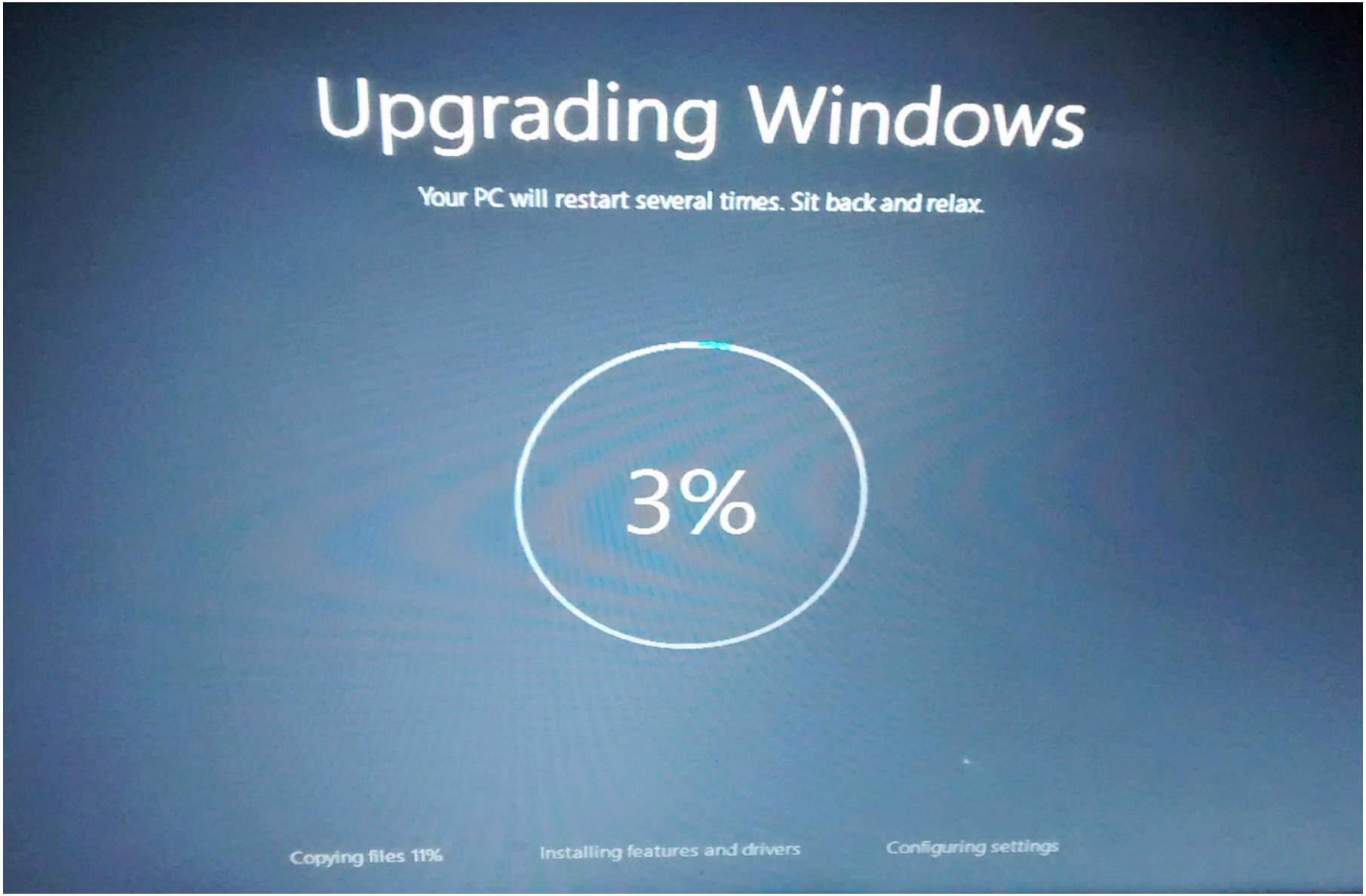
A Consultation paper



Driver engagement and re-engagement

- Driver interaction with the vehicle should be standardised

FOUR QUESTIONS


Upgrading Windows
Your PC will restart several times. Sit back and relax.
3%
Copying files 11%
Installing features and drivers
Configuring settings

FIRST QUESTION

WHAT HAPPENS IF THE SYSTEM LETS US DOWN?

SECOND QUESTION

WHO SHALL MAKE THE (UN)ETHICAL CHOICES?

THIRD QUESTION

HOW TO BUILD TRUST?

FOURTH QUESTION

HOW TO MAINTAIN TRUST?

1. **What happens if the system lets us down?**
2. **Who shall make the (un)ethical choices?**
3. **How to build trust?**
4. **How to maintain trust?**

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