



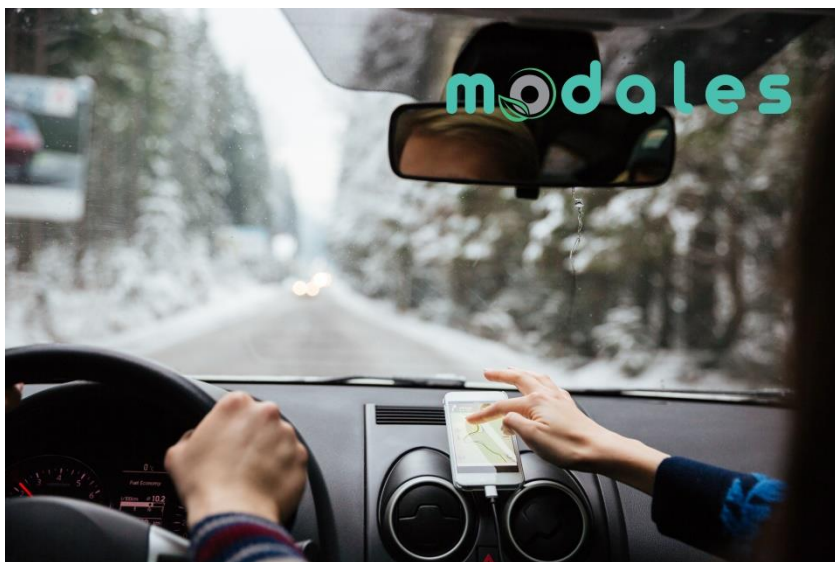
Adapting driver behaviour
for lower emissions

MODALES project: Summary presentation

Modify Drivers' behaviour to Adapt for Lower Emissions

February 2021

MODALES at a glance



Project vision:

To reduce air pollution from all types of on-road vehicles (but especially older vehicles) by encouraging adoption of low-emission driving behaviour and proper maintenance choice.

MODALES is working to advance the understanding of the co-variability between **user behaviour** and **vehicle emissions** from:

- **Powertrain** - **Brakes** - **Tyres**

...in order to modify user behaviour, via dedicated training including:

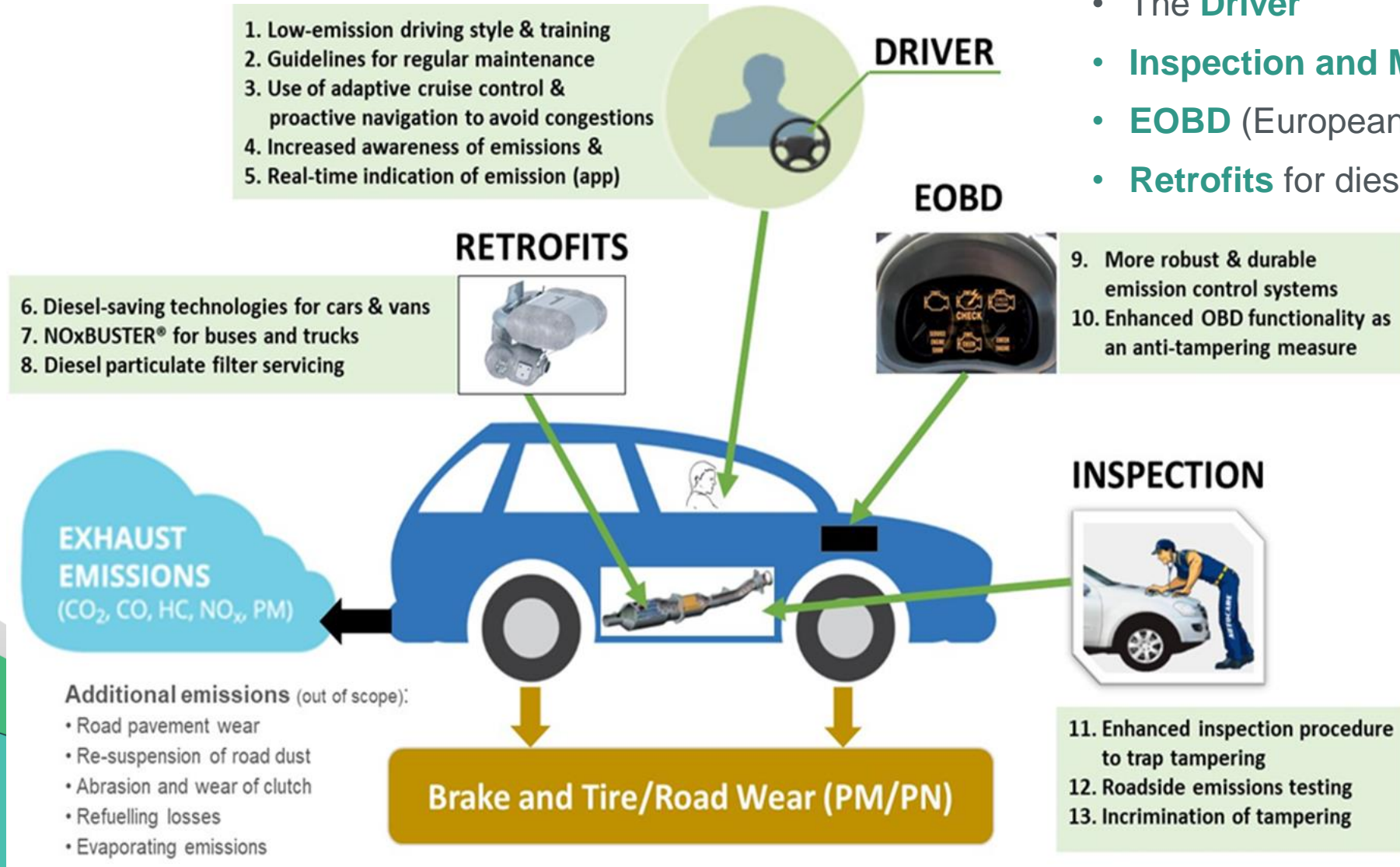
- **A driver assistance app** - **An awareness campaign**

Project figures:

- Project runs from September 2019 to August 2022
- 15 partners from 10 European countries and International Partners in China
- European Commission Horizon 2020 call MG-1.1: Reduction of transport impact on air quality, topic: “Low-emission oriented driving, management and assistance, exploring the impact of the user on emission production”
- €4.72 million budget

The concept focuses on four main aspects:

- The **Driver**
- **Inspection and Maintenance**
- **EOBD** (European On-Board Diagnostics)
- **Retrofits** for diesel vehicles



Examples of the MODALES approach

Linking exhaust emissions to driving behaviour by:

- Emission measurements with PEMS (Portable Emissions Measurement System) in real driving
- Using detection fleets to trace emissions (mainly NO_x) and record emissions-related powertrain parameters and driving behaviour
- Linking powertrain use and driving behaviour: installing wireless EOBD interfaces on cars and developing a smartphone app to record emissions-related powertrain parameters with driving behaviour.

Brake and tyre emissions:

- Developing and verifying a methodology for particle measurement that links the road driving style with the latest version of the common inter-laboratory methodology (brake dynamometer test)
- Developing a simulation methodology for instantaneous particle calculation or tyre mass-loss and correlating it with driving style for different types of vehicles and brake and tyre types.

Key technical activities

- Defining low-emission factors
 - Impact of user behaviour
 - Effectiveness of inspections and depollution systems
 - Guidelines and tools for low-emission training
- User trials and evaluation, covering 9 pilot sites:



Barcelona



Bergamo



Bucharest



Helsinki



Istanbul



Leeds



Luxembourg



Nanjing



Thessaloniki

modales

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