**Ecovehicle E!7219**

**Defining road and rail vehicles with a low environmental footprint**

**Background & policy context:**

The concept of a vehicle's environmental footprint has been developed in the Eureka project Footprint (2001 to 2008) in which the size of the footprint has been related to its impact with the infrastructure and the environment and its external (social/environmental) cost. Methods of measurement have been developed and data collected and assessed to determine its reliability and reproducibility.

In the Ecovehicle project, the measurement campaign for monitoring the environmental impact of road and rail vehicles will be extended. Common methods of analysis will be formulated and the data will then be analysed to identify those vehicles which are being operated outside regulatory and safe working limits. Methods of informing drivers and operators will be developed working with local authorities.

From such analyses it will be possible to determine the proportion of any vehicle type that has high impacts and vehicles that have low impact. Appropriate criteria will then be proposed for environmentally friendly road and rail vehicles and to determine possible parameter limits. The final task will consider how these environmental impacts can be costed. Within any one class of vehicles, it should be possible to identify an incentive (bonus) for vehicles with a low footprint and a penalty (malus) for vehicles with a large footprint. This would be in accord with the polluter pays principle as set out in the EU Green Transport package of 2008.

**Objectives:**

The ever increasing mobility of people, goods and services has resulted in a growing amount of transport of all modes. This has an increasing impact on both resource levels and the environment and is now a major contributor to greenhouse gaseous emissions, which is contributing to global warming and climate change.

Ecovehicle is exploring one option for reducing this impact, namely to define and then stimulate the uptake of environmentally friendly road and rail vehicles.

It is promoting the concept of a vehicles environmental footprint, which relates to:

- Static and dynamic loading of wheel or tyre on track or pavement
- Noise and vibration arising from this dynamic interaction
- Gaseous emissions associated with moving the vehicle both globally and locally
As part of its activities, Ecovehicle is organising a series of workshops to explore the technical,
economic and social issues in order to reduce such impacts in the quickest and most effective way.

The project welcomes new partners who can contribute to the projects goals and further information is
available from Lily Poulikakos, the coordinator (Lily.poulikakos@empa.ch) or Rayner Mayer, project
manager (r.m.mayer@reading.ac.uk)

Ecovehicle is an accredited European collaborative project within the Eureka Research and
Development framework.

**Methodology:**

Within the European project five tasks have been identified to address the relevant problems. More
information can be provided upon request.

**Parent Programmes:**
EUREKA - A network for market-oriented R&D (network)

**Institute type:** Public institution

**Institute name:** No fixed leading institution, but current chairmanship is held by the Danish Ministry of
Science, Technology and Innovation (until June 2003)

**Other countries:** UK, CZ, RO

**Partners:**
Ecovehicle is an accredited European collaborative project within the Eureka Research and
Development framework.

Current partners are:

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Contact country: Switzerland
Organisation Website: Organisation website

STRIA Roadmaps: Other specified
Transport mode: Multimodal transport
Transport sectors: Passenger transport
Transport policies:
Societal/Economic issues, Decarbonisation, Digitalisation, Environmental/Emissions aspects
Geo-spatial type: Other